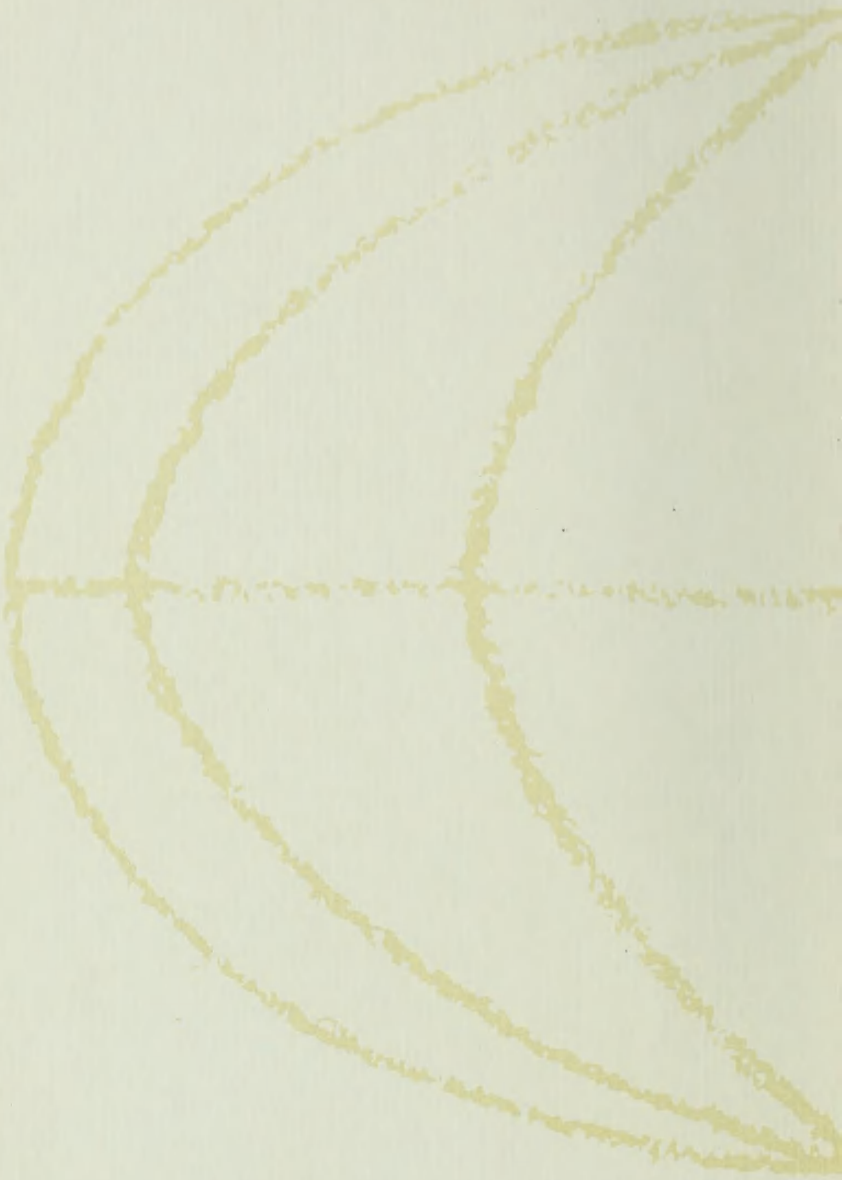
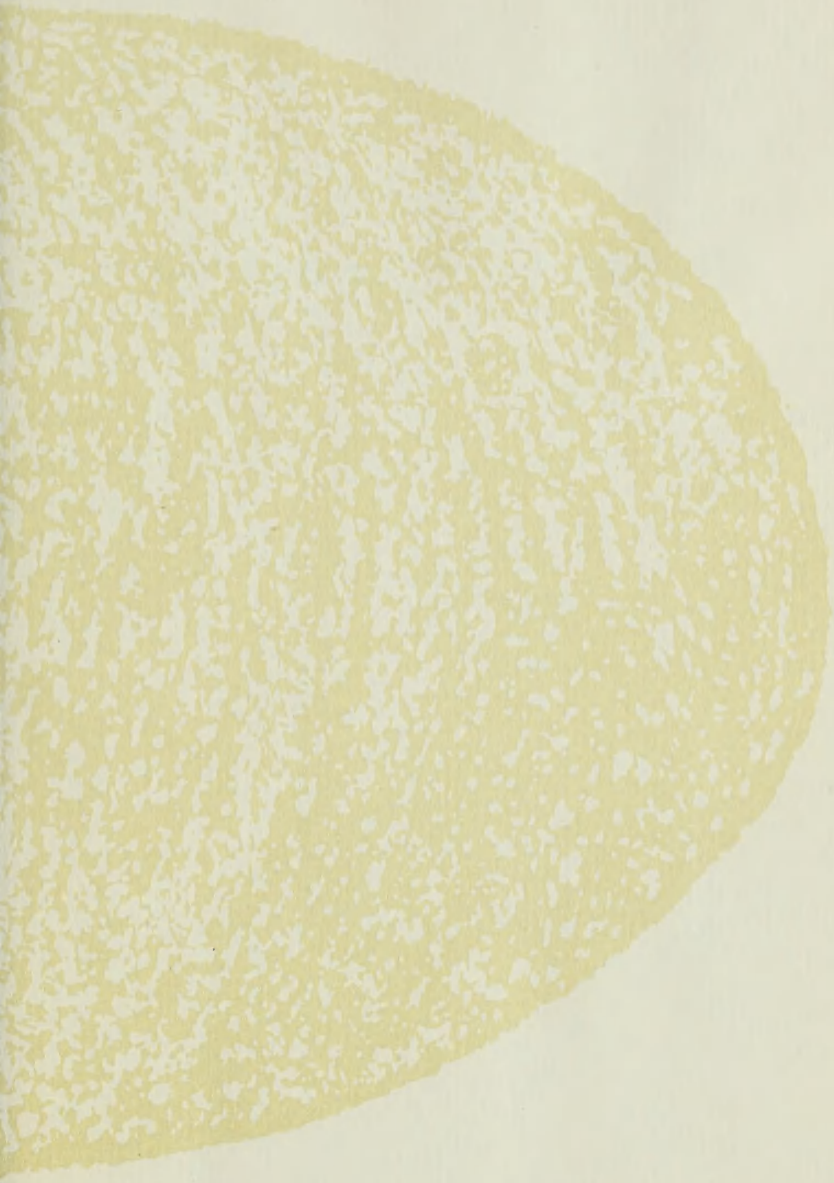
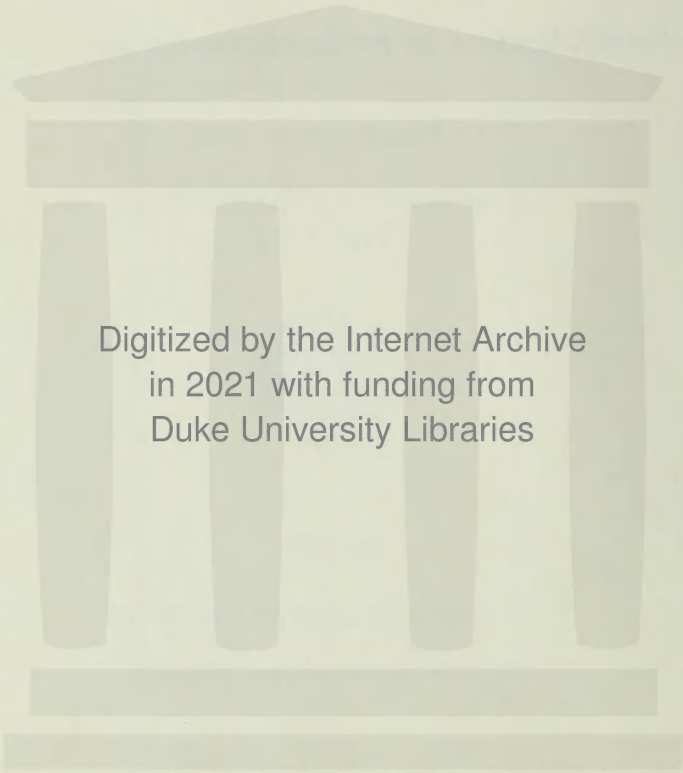




Health Objectives for the Developing Society



Health Objectives for the Developing Society / *responsibility of individual, physician, and community*

GUILLERMO ARBONA / FREDERICK J. BRADY / ROBERT E. COKER, JR. / R. TAYLOR COLE / JOHN C. CUTLER / VICTOR C. GOLDBLOOM / EDWARD G. McGAVRAN / HENRIQUE M. PENIDO / CONRAD SEIPP / ERNEST L. STEBBINS / WILLIAM H. STEWART / BARNES WOODHALL / E. CROFT LONG, *editor*

DUKE UNIVERSITY PRESS / Durham, North Carolina / 1965

Library of Congress Catalogue
Card number 65-19451
Printed in the United States of
America by the Seeman Printery

Foreword

Health Objectives for the Developing Society—Responsibility of Individual, Physician, and Community is the result of a seminar held at Duke University on September 4, 5, 6, 1963. Financial assistance for this undertaking was provided by the Ford Foundation, and for this we are most grateful. An expression of appreciation is also due to members of the organizing committee and to Dr. R. Taylor Cole, Provost of Duke University, whose interest and assistance provided continuing support. Neither the Ford Foundation nor Duke University is responsible, however, for the views expressed.

The objective of the seminar was to further the exchange of ideas on rural health in evolving societies. Among many difficulties to be overcome in constructing programs by which good health and banishment of disease can be realized, one of the most contemporary and important concerns the apportionment of responsibility to the community, to the health workers, and to those who stand at the receiving end of all health endeavors—the populace.

In recent years the countries of the Americas have awakened to the expediency, indeed the necessity, for integrating their financial, economic, educational, health, and other social designs. Endeavors in the health-related fields include not only many programs that utilize the expert advisory services and technical facilities of international organizations, including the Pan American Sanitary Bureau, now in its sixty-second year of active operation, the United Nations Children's Fund,

the United Nations Food and Agriculture Organization, but also important contributions by charitable foundations and by private individuals, including dedicated physicians from the United States. The contribution of the government of the United States in the form of economic assistance applicable to many areas, including health, has been increased considerably. During the years 1946-1960 aid to Latin America comprised about 7 per cent of the total U.S. Foreign Aid Program.

The Act of Bogotá, signed by the governments of the Americas in 1960, preceded a charter ratified at Punta del Este, Uruguay, in 1961. This charter defines the principles of the Organization of American States and lays emphasis on the obligation of developing countries to make efforts to help themselves and to start on the slow and painful road to social reform. As a direct result of the charter, a new relationship evolved to unite the countries of Latin America and the United States in an "Alianza para el Progreso," an Alliance for Progress. The United States thereupon increased the share to be received by Latin America to 25 per cent of the total Foreign Aid Program.

The Alliance comprises an imaginative attempt to express in practical form the complex interdependencies of government, education, economics, and health. The health objectives of the Alliance, to which reference is made by Dr. Barnes Woodhall in his introductory statement, by Dr. John C. Cutler, by Dr. Ernest L. Stebbins in his address on "Future Prospects," and by several other speakers, have particular significance for rural communities of Latin America that constitute over 50 per cent of the population. While the population density is at least twenty-five inhabitants per square kilometer in the eastern third of the United States, broad areas exist containing five persons per square kilometer or less. In Canada, excluding a small southeastern area of high density, the population is less than five persons per square kilometer while approximately one-third of the country has less than one person

per square kilometer. In Middle America the population density is high, as it is along the west coast of South America in the regions of ports and capital cities. Otherwise, there are five persons or less per square kilometer, about 40 per cent of the area having less than one person per square kilometer. Total population of the Americas was 381 million in 1957 and it is expected to reach 619 million in 1980. The rate of population increase in Middle and South America has exceeded that of any other part of the world during the past ten years, and by 1980 it is anticipated that the population of South America will have increased by 77 per cent and Middle America by 89 per cent.[1] The problems of rural health are, therefore, no academic exercise but are of grave urgency.

In the sense implied by the approach of the Alliance, health must be considered a commodity indispensable to every phase of evolution in the Western Hemisphere. The establishment of adequate health services is a dramatic necessity when viewed in the context of the vast population increase. Solutions must be found speedily to problems of rural health, not only the provision of potable water, effective sewerage, and adequate nutrition, but at all levels of disease prevention, rehabilitation, and the growing incidence of incapacity caused by industrial poisons and pesticides. The expansion of a country's economy largely depends upon the elevation of its agricultural potential. This potential can never be exploited fully until a high standard of physical well-being is attained. Health of the public demands far more than facilities for the diagnosis and treatment of disease; it requires vigorous attention to all facets that contribute to mental and physical upgrading. The organization of services capable of accomplishing this range of activities insists upon the most careful planning and forces a viewpoint that will permit a community to be assessed in many ways simultaneously.

Rural societies, in which people live far away from medical

[1] U.S. Congress, Senate, Subcommittee of the Committee on Government Operations, *Health in the Americas and the Pan American Health Organization*, 86th Cong., 2d Sess., 1960, pp. 9-12.

centers, are exposed to unique health hazards because there is no lowest common denominator applicable without reservation to all communities. Certain features are common to every rural society; many are not. The economic and sociologic traditions and potentialities differ vastly from one region to another, and the key to good health must take these and many other factors into account. It is necessary to define clearly the health objectives for each particular society, and the definition of these objectives will differ because the allocation of responsibility will be variable. In primitive, isolated communities the responsibility of the individual for his own welfare cannot be the same as that of an educated person living in affluent rural circumstances. The availability of health workers and their abilities to apply the principles of preventive medicine will likewise play a central role in designing health programs. The responsibility of the community for setting up medical facilities, for providing doctors, nurses, technicians, and health educators depends, in turn, on the relationship of economy, geography, and education. Health of the public in both rural and urban communities cannot be left entirely to whims of spontaneous generation, to be determined only by what is available locally in terms of funds, personnel, enthusiasm, and prejudice.

It must never be forgotten that apportionment of responsibility to individuals, singularly or collectively, in any aspect of human aspiration is valueless unless the individuals themselves understand and act upon these responsibilities and, further, that they conform to a more or less widely accepted ethical standard. For, in the absence of mutual trust and where faith in co-operative endeavor does not exist, any nationwide or community undertaking can be strangled and slender accomplishments will be dissipated. Educated behavior is not necessarily ethical behavior. Governmental, economic, or legislative stability can never be substituted for altruism, honesty, and concern in the realization of legitimate national ambitions.

Health Objectives for the Developing Society is intended to explore some facets of an intriguing, contemporary question. The purpose is to provoke restatement of an outstanding problem, to direct attention to its urgency, and to generate inspiration for its solution.

The contributors of the papers are well known in the field of public health and in the international medical scene. Dr. Guillermo Arbona is Professor of Public Health and Preventive Medicine at the University of Puerto Rico and also Secretary of Health. Dr. Frederick J. Brady, for many years active in tropical medicine, has held appointments in the U.S. Public Health Service and the Pan American Sanitary Bureau. In 1953-1954 he was President of the American Society of Tropical Medicine and is at present Director of the Pima County Health Department, Tucson, Arizona. Dr. Robert E. Coker, Jr. is a graduate of the Johns Hopkins University School of Medicine, where he received additional training in the field of public health. He has held posts in the State Board of Health, North Carolina, and in the Butler County Health Department, Pennsylvania. During 1954-1956 he was lecturer in the Graduate School of Public Health, University of Pittsburgh, and is now Professor of Public Health Administration at the University of North Carolina. Dr. Victor C. Goldbloom, who earned his medical degree at McGill University, has specialized in pediatrics. He has held appointments at the Montreal Children's Hospital and the Baron-de-Hirsch Institute. At present he is a faculty member of McGill University in the Department of Pediatrics. Dr. Edward G. McGavran, who was formerly Dean of the School of Public Health and Professor of Epidemiology at the University of North Carolina, is co-author of the paper entitled "Health Objectives in Southeastern United States." Dr. McGavran was unable to be present at the seminar since he was at that time working in India. The other author of the paper is Dr. Robert E. Coker, Jr. Dr. Henrique M. Penido, author of the paper entitled "Health Objectives in Brazil," is Co-ordinator for

Planning, FSESP (Special Service of Public Health) in Rio de Janeiro, Brazil. He has been particularly active in the field of malarial control and served as Chief of the Laboratory of the Fifth District of the National Malaria Service in Blumenau prior to his present appointment. He was formerly on the faculty of the National University of Brazil, where he had earned his M.D. degree. Dr. Conrad Seipp is a graduate of Yale University, where he received the M.A. degree in history. In 1958 he was awarded the Ph.D. degree in the Program of Education and Research in Planning from the University of Chicago. He was Director of Planning, Evaluation and Research, Department of Health of the Commonwealth of Puerto Rico, and at present is Associate Professor of Health Planning, Graduate School of Public Health, and Associate Professor of Social and Economic Development at the Graduate School of Public and International Affairs, University of Pittsburgh.

Dr. Ernest L. Stebbins, one of our most distinguished contributors, is at present Professor of Public Health and Dean of the School of Hygiene and Public Health at the Johns Hopkins University. He has wide experience over many years in all aspects of his profession and has had charge of the educational program in public health at Johns Hopkins in which several members of the present symposium participated earlier in their careers. Dr. William H. Stewart, a graduate of the Louisiana State University School of Medicine, was formerly Director of Public Health Methods at the National Heart Institute. He was later Chief of the Division of Community Health Services of the U.S. Public Health Service and is at present Assistant to the Special Assistant to the Secretary (Health and Medical Affairs), U.S. Department of Health, Education and Welfare. He is author of the paper on "Health Problems of Rural Communities."

The Chairman of the seminar was Dr. John C. Cutler, Deputy Director, Pan American Health Organization, Regional Office of the Americas, WHO. Dr. Cutler was awarded the

M.D. degree from Western Reserve University and received the M.P.H. from the School of Hygiene and Public Health, Johns Hopkins University. During his career he has conducted research in the field of venereal disease at the Public Health Service, Venereal Disease Laboratory, Stapleton, New York, and in Guatemala. In 1959-1961 he was health officer for the Central District, Alleghany County Health Department, and also held an appointment in the Graduate School of Public Health at the University of Pittsburgh. He joined the Pan American Sanitary Bureau in 1961.

Two faculty members of Duke University also took part. Dr. Barnes Woodhall is Vice-Provost of Duke University, Dean of the School of Medicine, and Professor of Neurosurgery. Dr. R. Taylor Cole is Provost of the University and James B. Duke Professor of Political Science.

In addition to these distinguished speakers, forty-three guests and participants from Duke University attended the seminar. The group included faculty members from the schools of medicine and nursing, and from the departments of economics, political science, and history, as well as representatives of the U.S. Army Medical Corps, the North Carolina State Board of Health, the North Carolina State Medical Society, and general practitioners. Dr. Alexander Robertson, the Executive Director of the Milbank Memorial Fund and Dr. Clifford A. Pease, Jr. of the Office of International Research, National Institute of Health, were also present. Most significantly, senior medical and nursing students from Duke University and from the University of North Carolina were invited and took full advantage of the formal and informal opportunities for discussion that the seminar was designed to provide.

E. Croft Long

Duke University

Contents

Tables

Maps

Health Objectives for the Developing Society

Introductory Statement

Barnes Woodhall

In August, 1961, representatives of all Central and South American countries excluding Cuba, together with a delegation from the United States met at Punta del Este, where an "Alliance for Progress" was established. Among its objectives one is to "enlist the full energies of the peoples and governments of the American Republics in a great cooperative effort."[1] In addition, the charter contains provisions designed to achieve increased life expectancy, reduced infant mortality, control of communicable diseases, eradication of malaria, better nutrition, improvement in medical education, and the acquisition of new knowledge by research.

Our seminar, devoted to "Health Objectives for the Developing Society—Responsibility of Individual, Physician and Community," is concerned with these goals. As Senator Hubert H. Humphrey pointed out in 1960, "Reducing disease and disability . . . requires more than the essential skills of the medical arts. It requires the skills of an entire society. This requires a dynamic society, rather than a static society; a diversified economy, rather than one overdependent on a few assets of fluctuating value."[2] Here is recognition that attainment of health depends upon more than the concern of the

[1] Organization of American States, Inter-American Economic and Social Council, *Alliance for Progress,* Ser.H/XII.1 (Punta del Este, Uruguay, Aug. 5-17, 1961) (Washington: Pan American Union, 1961), p. 11.

[2] U.S. Congress, Senate, Subcommittee of the Committee on Government Operations, *Health in the Americas and the Pan American Health Organization*, 86th Cong., 2d Sess., 1960, p. xiv.

individual, no matter how sophisticated his preoccupation with his personal welfare, and upon more than the concern of a capable and dedicated doctor. The statement underlines a further important point: the relationship of medical, economic, sociologic, and political factors—the interplay of which will define the approach to the problem and ultimately its outcome. Indeed, "Health . . . is determined by man's total environment."[3]

The age in which we live is unique, particularly because it has witnessed the end of the static cultures. Society, primitive or advanced, ultimately experiences decadence, disintegration, and dispersion unless the forces of sociologic evolution achieve their fulfilment. In the Western Hemisphere there is no society that has not felt the hand of Western man and been transmuted because of it. The day of political inflexibility has passed. "Development" is the watchword in the Americas, a word charged not only with promise inherent in success, but also with disaster implicit in failure.

Because societies develop in accordance with different environmental forces, there can be no panacea that will guarantee their individual objectives. Programs leading to a high level of community health must be as variable as the societies they are designed to serve. Further, flexibility must permit the programs to evolve in step with the community. Although needs differ, definition of patterns and study of trends is practicable and valuable. The present experiences of others added to the lesson of history, can be compounded as a basis for prediction and fully justifies the research and collaboration that is entailed.

The seminar places emphasis on the development of health programs in rural communities. Hanlon points out, "Problems of rural areas are simpler than those of an urban area. The economic and social life is geared primarily to agriculture. Life and behavior is more uniform, with less demand for

[3] *Ibid.*

luxury items. . . ."[4] He continues, ". . . people living further apart attend for the most part to their own affairs and self-maintenance, with the development of considerably less social friction. They have little in the nature of private local interests."[5] On the other hand, less favorable economic status, looser social organization, and geographic isolation generate unique difficulties. When good communications are available, distance now does little to impair the services with which the doctor can provide the individual. But a weaker social structure increases the difficulty of productive interaction between the doctor and the community.

This complementary relationship embracing the individual, physician, and community does not exist in the most primitive societies. Isolation and destruction of the diseased formed the earliest way in which a group protected itself against contagion. Only later did the physician assume the role of an intermediary or buffer between the sick and the society. He protected the patient and endeavored to heal him; the doctor-patient relationship had arrived. Eventually, the community-doctor relationship permitted the physician to act, not only as a defender of the sick against the vengeance of society, but as a protector of society against epidemic disease. In this way a triangular relationship became established. It awaited the passage of time for the responsibility of the doctor toward the community to evolve from that of a passive, insulating function to a concern with active promulgation of health by development of principles of nutrition, clean water supply, disposal of sewage, and other measures.

In our time the relationship has become more complex. There is no longer doubt concerning the logical responsibilities of the physician to patient and community alike, as the evolution of public health services attest. But just as a physician owes a duty to patient and community, so the community owes

[4] John J. Hanlon, *Principles of Public Health Administration* (3rd ed.; St. Louis: Mosby, 1960), p. 165.
[5] *Ibid.*, p. 166.

support to physician and patient—to provide the former with a valid context within which to work and to provide the latter with access to a physician's services and the opportunity to profit by his advice. The patient himself must appreciate and accept his responsibility towards the community, of which he is a member, and toward the physician, to whom he owes standards of ethical conduct.

The problem of allocation of responsibility to individual, physician, and community is quantitative, not qualitative. It is complicated by varied, variable socio-economic and political overtones and, as a result, is amenable to no standardized, trite, or doctrinaire solution. There are sound traditional as well as contemporary reasons for discussing the tripartite relationship that is the basis for this seminar. The physician has always recognized intuitively the place of man in society and he at least is never in doubt concerning for whom the bell tolls.

BARNES WOODHALL

Duke University

1

WHO Accomplishments in the Western Hemisphere

John C. Cutler

In the international field we believe that it is exceedingly important to talk about what is going on and to expound the idea that international health is not the sole province of those who happen to be working officially in that specialty. It is the responsibility of everyone, regardless of his situation in a university or in an official agency, because we live in a world which is completely interdependent and work carried on internationally is merely an extension, a part of the broad pattern of the practice of health.

I should like first to mention some points that touch on the nature of the health problems in the developing society and on the status of international health today, in order to set the background for the assignment of responsibility to the individual, to the physician, and to the community. To quote from the Foreword of the U.N. Secretary-General's report on the "United Nations Development Decade":

> It is an extraordinary fact that at a time when affluence is beginning to be the condition, or at least the potential condition, of whole countries and regions rather than of a few favoured individuals, and when scientific feats are becoming possible which beggar mankind's wildest dreams of the past, more people in the world are suffering from hunger and want than ever before. Such a situation is so intolerable and so contrary to the best interests of all nations that it should arouse determination, on the part of ad-

vanced and developing countries alike, to bring it to an end. The United Nations has recognized the need for action by designating the current decade as the United Nations Development Decade.

. . . . . .

At the opening of the United Nations Development Decade, we are beginning to understand the real aims of development and the nature of the development process. We are learning that development concerns not only man's material needs, but also the improvement of the social conditions of his life and his broad human aspirations. Development is not just economic growth, it is growth plus change. As our understanding of development deepens, it may prove possible, in the developing countries, to compress stages of growth through which the developed countries have passed. It may also be necessary to examine afresh the methods by which the goals of development may be attained.[1]

In examining the ways and means of doing this, the Secretary-General goes on to say:

There is now greater insight into the importance of the human factor in development, and the urgent need to mobilize human resources. Economic growth in the advanced countries appears to be attributable in larger part than was previously supposed to human skills rather than to capital. Moreover, the widening of man's horizons through education and training, and the lifting of his vitality through better health, are not only essential pre-conditions for development, they are also among its major objectives. It is estimated that the total number of trained people in the developing countries must be increased by at least 10 per cent a year if the other objectives of the decade are to be achieved.[2]

With that statement on what our objectives are, I should like to review some of the accomplishments of the World Health Organization and the Pan American Health Organization, which serves also as the Regional Office of WHO for the Americas. It is rather enlightening, I think, to recognize once again that the very basis of international health programs was essentially community interest.

[1] United Nations, Report of the Secretary-General, *The United Nations Development Decade, Proposals for Action* (New York, 1962), p. v.
[2] *Ibid.*, p. vii.

In the founding of the Pan American Health Organization, which is now more than sixty years old, the reason for the nations banding together to do something about health was seen in terms of community interest, the economic interest. In the inter-American system, the countries took a look at the problems of trade and commerce and began to consider ways and means of raising the standard of living in this area through the improvement of trade. They found out very shortly after the Organization of American States was formed some seventy years ago that the chief barrier to trade and economic development was disease. Thus, the first of the specialized agencies set up was what is now known as the Pan American Health Organization. The objective was simply to work in the fields of reporting and control of the epidemic diseases in such a way as not to permit disease to interfere with the orderly flow of trade and commerce. Thus we can say that the formal recognition of the need for international co-operation in health was primarily economic in support of the development of the community.

In that early period certainly very little attention was paid to the individual's responsibility for his health. Of course there was the development, in the field of medical care, of the physician-patient relationship, but in terms of community-health responsibility, attention was focused on what the technician was able to do for the community, calling upon the individual only to present himself for certain action to be performed on him.

There has been a major change in the allocation of responsibilities since that time, as we shall discuss later. But when we review the role of the international organizations it becomes very clear that their programs are not programs set up by the organizations themselves; rather, what is done internationally is a reflection of what the governments themselves want done. The international health organizations' policies are determined by the vote of their member governments. Policy development

and the allocation of funds for programs are thus functions of the governments, and any accomplishments of the international organizations must be regarded as accomplishments of the countries themselves. The responsibility of those organizations is primarily to work to strengthen the health services of the member governments, and not to develop programs which are independent of those governments.

In this connection it is important to point out a concern expressed in a number of nations as to what they call "international imperialism," if we may use the word. This concern reflects the governments' interest in strengthening their own services, doing the job themselves, rather than having it done for them by an international group. And this sense of the need for the governments themselves to strengthen their own services is paramount, at least in the thinking of those of us in the international field.

For the benefit of those of you who have not had the pleasure of working abroad, it is important to define the society about which we are talking—the developing society. Because I am most familiar with the Americas, I should like to outline the status of the society in the Americas in whose health we are concerned.

The expression "underdeveloped areas" or "developing areas"—which is the term preferred by the countries themselves—is largely an economic measure. It is applied to the countries or regions which have a level of income and capital considerably lower than that in North America, Western Europe, or Australia. Measuring by the standards of development set by these technically advanced countries, we can say that approximately three-quarters of the world's population live in areas which are underdeveloped or developing. And in this hemisphere alone roughly a quarter of a billion people can be considered as living in the developing stage.

Although these communities present numerous characteristics in common, and there is this massive bulk of land and

people that can be considered as underdeveloped, there are wide gradations or variations among and within the countries themselves. If we were to characterize these areas in any one way, we should describe Latin America as an area of tremendous complexity in which many of the problems and conditions are qualitatively similar to those we know in the United States, but which represent impressive quantitative differences.

It is significant at the beginning to consider the size, not only of the population but of the land mass we are talking about. As an illustration, Brazil alone, in terms of size, is larger than the United States less Alaska and the insular area. Within this country one finds the same complexity and variation in terrain and climate that occurs in the United States. This is just one country of roughly 80 million people out of some 26 or 27 countries and territories which make up the Americas. The population of Latin America is roughly 220 million people, and the majority live within 200 miles of the seacoast. The reasons are both historical and geographical, for the means of communication are such that there is a concentration of population in areas of easy accessibility. Thus, where people are scattered throughout a vast expanse—they expanded in Brazil along the Amazon River—one finds that the country consists of small groups of people separated by large distances. In terms of the density of population, Latin America has approximately 23 persons per square mile, as compared to some 57 per square mile in the United States.

On the other hand, vast areas of the continent are extremely inhospitable and one finds great expanses of desert and jungle which under present circumstances are probably unfit for any human habitation.

Latin America is essentially a rural area. More than 50 per cent of the population live in small communities. Mexico alone has a hundred thousand villages with populations of 400 or less. Ninety-five per cent of all of the towns and villages in Latin America have less than 2,000 population. On the

other hand, one encounters a situation such as that in Argentina, where almost a third of the country's population lives in Greater Buenos Aires, and this metropolitan complex, along with that of Mexico City, has one of the most rapid rates of growth in the world. The same is true in Uruguay, where almost half the population lives in Montevideo.

This situation, impressive in itself, points out some of the complexity of the society in which we live. One cannot think of each of these countries as being a homogeneous group of inhabitants; while each one has national boundaries and national identity, there is a striking lack of homogeneity in the population, even within the country itself. The significance of this fact with respect to programs of social and economic development, including health, will become more evident as we consider this area.

In these communities there is a very interesting historical background which must be kept in mind. When the European conquest of the Americas took place, two patterns were set up. In the United States the colonizers, predominantly of English culture, took the attitude that the only good Indians were dead Indians, and until shortly after the Civil War the Anglo-Saxon approach to the Indian problem was extermination. The Indians were consistently driven back and no attempt was made to introduce them into the culture; they were in the way and the land was wanted by outsiders. The attitude in the Spanish and Portuguese conquests was quite different. The plan was to take territory to work for agricultural and mineral purposes, and manpower was an important factor for this development. The native Indian ruling class and the priesthood were killed, and there was a replacement of that ruling class by representatives of the European culture. This pattern was reflected in the development of the communities in the area, and what we have in Latin America consists, aside from the large cities, of essentially self-sufficient isolated communities, geographically separated. They are culturally distinct one from

another, and what is not generally realized is the tremendous language barrier in at least four of the countries: in Guatemala, Bolivia, to a certain extent Paraguay, and Peru some 50 per cent of the population do not speak Spanish or their Spanish, when it is spoken, is merely for basic communication, so that these communities are isolated not only culturally but linguistically. With this isolation come certain community traditions regarding self-sufficiency and ways of approaching problems which pose difficulties in working with these communities but also which provide special opportunities for approaching the solution of health problems.

In these self-sufficient communities one finds the village system, again going far back into pre-Columbian times, in which traditional religion imposed the responsibility on all males that they contribute to the welfare of the community. Historically it is the tradition that the individual must assist in terms of construction of roads, schools, churches, and so on, giving of his time in accordance with the plans and programs worked out by the village communities. This factor becomes increasingly important as one approaches the question of how to bring these people into the twentieth century and to achieve rapid development.

On the other hand, again through historical accident and economic facts, the villages have tended to occupy much of the poorest land. Through the massing of large land holdings during the conquest, there developed a system of the hacienda, or the possession of vast tracts of land by individual families. Often these tracts were tenancy land, and the so-called peons or peasants living on them had varying rights, depending on the country. In many cases, even today, the relationship between the hacienda owner and the Indians, or mestizos, living on his land is one in which the individuals must contribute so many days work each week to the support of the hacienda, while the owner furnishes the seeds and all materials the tenants require. The relationship is very similar to the old company town

that we knew in the United States in the era when the industrial society depended upon the easy availability of large groups of laborers who were bound to the company by economic ties.

As part of the Alliance for Progress, and related to the vast and impressive social change that is now taking place throughout the Americas, there is a breakdown of this massive system of land holding. The revolution, if it may be so called, took place in Mexico some thirty years ago when land holdings were broken up. In Bolivia it has taken place within the last ten years, and there has been an accelerating breakdown in other parts of the Americas over recent years. With the signature of the Alliance for Progress by these governments, they pledge themselves still further to accelerate this breakdown, giving the individuals land which they can cultivate on their own, as their personal property. In certain countries we are finding that the process is moving even more rapidly than may be really desirable.

Recently I was in Peru and had an opportunity to visit some of the areas where the so-called "invasion" is taking place. The pressure for land, the desire for property and opportunity to work one's own holdings, is so great that well-led groups of peasants move into large territories which are lying unused in the hope that individuals may acquire tracts of land of their own to work.

Another important factor to consider is education. Illiteracy in Latin America is roughly 50 per cent, but this varies from the 80 per cent one finds in a country such as Haiti, to the 10 per cent or less in countries including Argentina, Chile, Uruguay, and Costa Rica.

In fourteen of the Latin-American countries, only 2 per cent of children of school age reach the highest primary grade. For further illustration, we can take Colombia as an example. Whereas in the United States roughly 96 per cent of the children of primary age will enter the primary schools, in Colombia, which has been making tremendous strides in providing

education, today only about 80 per cent enter primary schools. In the United States about 65 per cent will complete sixth grade education; in Colombia, 7 per cent. In the United States we expect about 63 per cent to enter the secondary schools, and in Colombia the figure is 3 per cent; and 1 per cent of the group of children will complete secondary schools in Colombia, in contrast to roughly 50 per cent in the United States.[3]

Finally, what about the health personnel and the health programs themselves? Contrary, again, to our Anglo-Saxon impression about the history of medical practice in Latin America, it is impressive to look back and find that in the earliest dates of the Spanish conquest hospitals were set up for the care, not only of the military, but also of the communities. And very early in the history we find that the Catholic church took the lead in setting up hospital systems which have come down to the present time, for the support of which contributions are made by the churchmen. Today, because of increasing costs, a large part of the contribution necessarily comes from the government, to be administered by voluntary groups in providing medical services for the poor.

Historically, this type of service provides care for the ill. The tradition of public health, however, gradually grew and was eventually formalized with signatures by the twenty-one governments of the Americas of the treaty establishing the Pan American Health Organization in 1902. In this way, we had definitive establishment, in the international sphere, of what we know today as modern health practice. There was a rapid flowering of this concept after World War I, with the contribution and leadership of the Rockefeller Foundation in developing public health practice along lines similar to that of the United States. In recent years this trend has been accelerated considerably, with varied sources of support, so that throughout Latin America one finds a very highly trained group of exceedingly capable public health men.

[3] American Assembly, *The United States and Latin America* (New York: Columbia University Press, 1959).

In recent years there has been the development of a system of social security different from that in North America, which provides medical care and other benefits. It is a system of insurance that provides medical services, unemployment payments, and certain other benefits for special groups of people within the community. It includes government workers, the military, the "white collar groups," utilizing private funds subscribed by the worker and the employer, together with a large contribution by the government. A small segment of the community, therefore, receives high quality preventive and curative medical services. In contrast, a large portion of the population is covered only by medical services provided by the governments through the ministries of health. As a result, from 10 to 20 per cent of the countries' population, covered by the social security scheme, receives about 80 per cent of the national expenditure for health.

We can summarize the social and medical status in this way: a very well-developed body of social attitudes toward health and disease exists in the communities. Rather than the sense of unity to which we are accustomed in North America, in Latin America we are dealing with pluralistics, in which by language, by religion, and by tradition there are vast differences in the approach to disease, the understanding of disease, the sense of individual and community responsibility for disease, the preservation of health, and prevention of disease.

We have evidence of a real sense of community responsibility, for from pre-Columbian times there has been a well-developed system of indigenous medicine. In many communities the tradition of the *curandera*, or the native midwife, has continued; and a large part of the available medical services are provided by the indigenous practitioner, who makes little use of scientific medicine. In this connection I shall never forget my experience in India, where we were having to contend with the same type of worker. We found that the native prac-

titioners were using traditional potions and herbs handed down over millennia, but they were lacing these with generous amounts of antimalarial or sulfonamide preparations or penicillin. In terms of community health they were curing the patients and doing what appeared to be a good job. The scientific practitioner was having a hard time making his efforts felt, because considering the fees of one healer compared with those of the other, there was much to be said in favor of the native practitioner from the point of view of the peasant.

One encounters throughout Latin America an historical sense of paternalistic responsibility for the individual, originating in the hacienda system and reflected in the government. It is interesting to note that even today about 25 per cent of the physicians in Latin America are full-time government servants. About 65 per cent are part-time government servants with the bulk of their income coming from government sources, and only 10 to 15 per cent of all practitioners are engaged in what we know in North America as the private practice of medicine.

Thus, there exists the tradition of individual responsibility, family responsibility, state responsibility, and church responsibility.

In studying the aspirations of the rural dwellers of the Americas, we find a large body of information which indicates that rural inhabitants are awakening to possibilities, and we find that they are seeking better education for their children, better health, and an opportunity to move forward. This is very important because it is one of the axioms of development that, unless attitudes and values change essentially, development cannot take place.

What are the health problems of the Americas? There is, indeed, a vast range of health problems throughout the continent.

In Venezuela, the pattern of mortality now is similar to that of the United States and Canada, the leading causes of death

being cardiovascular disease and cancer. By contrast, in most other countries the leading causes are gastrointestinal and respiratory disorders and the whole range of infectious diseases coupled with malnutrition. The death rate under the age of five, one of the basic indicators, also shows great variation. In many countries for which data are available mortality in this age group is forty times that in North America.

There are also tremendous variations in medical manpower. For physicians, the figures range from less than three to ten per ten thousand population. Distribution is very uneven because physicians, nurses, and other personnel tend to concentrate in the large cities, where hospitals and other resources for their work exist and where the amenities and opportunities for education of their families are found, in contrast to the rural areas.

Over the last ten years we have seen a striking drop in many of the indices of disease. Death rates for the age group one to four years for twenty Latin-American countries show that in most there is a gradual, or in some cases a rapid, decline in mortality.[4] This reflects several things. It reflects generally the improvement of health services, the improvement of public health practice, and the ability of the community to take advantage of some of the modern resources in medicine. But these data from many of the countries are derived only from the large cities, and there is little information concerning rural areas.

Of the "killer" diseases, special mention should be made of malaria. In 1955 roughly 40 per cent of the continent was a malarious area. By 1962 almost one-third of that territory had embarked on programs of malaria eradication. There have been massive efforts by the governments to eradicate this disease, with assistance from international organizations, both the U.S. AID program and that of the multilateral organiza-

[4] Pan American Health Organization, *Summary of Four-Year Reports on Health Conditions in the Americas, 1957-1960*, Scientific Publication No. 64 (Washington: 1962), pp. 8-23.

tions, PAHO and WHO with fiscal support of UNICEF. About 80 per cent of the cost has been borne by the governments themselves. In this continental, indeed worldwide, approach to malaria eradication, we have thus begun to see tremendous strides.

Regarding malnutrition, where we should like to speak of progress, we must speak of retrogression. The leading causes of death under the age of four in the Americas are communicable and gastrointestinal diseases. The reason these children die is not because of infection alone, but is the result of a complex syndrome involving malnutrition, which carries a very high mortality. Yet over the past ten years, although there has been an 80 per cent increase in food production throughout the Americas, the population increase has been so vast that actually there has been a decline of about 2 per cent per capita in the amount of food available.

Regarding health expenditure, the governments themselves are the largest contributors. Available data indicate that from 5 to 10 per cent of the governmental budgets, country by country, are allocated for this purpose. This cannot be compared with allocations of the United States and Canada, because in North America we try to relate expenditures for health to gross national product. When one considers this expenditure of government funds in relation to needs that are now apparent, one begins to appreciate the magnitude of the problem in attempting to bring about any major improvement in health. Thus, the successful accomplishments must first be attributed to the governments themselves. It is important also to recognize the contributions to the cause of international health by religious organizations, voluntary groups, and the universities, whose fellowships and training opportunities have been exceedingly important in developing manpower. Last, efforts made nationally with assistance including funds, personnel, supplies, and equipment from international sources are extremely important.

To give some idea of the magnitude of these efforts, over the past eight years the multilateral agencies, the Pan American and World Health Organizations, have allocated almost four thousand fellowships—roughly five hundred a year—to the Americas alone. These have covered the entire field of health services, with heaviest emphasis on public health administration. This program has been coupled with a massive attempt to carry out training at a lower level within the country. In 1962 alone, with international multilateral assistance, including that of UNICEF, approximately four thousand more workers were trained within these countries. Special needs include the training of nurses for supervisory work, short-term training for public health physicians, and particularly today, when we are under pressure to carry out health planning under the Alliance for Progress, the development of courses in effective planning. Organizational planning is essential to permit the health sectors to work with other segments of society in order to create a national plan that will result in the most effective allocation of funds and optimal utilization of the personnel and capital resources now existing in the countries.

An article by Arthur T. Mosher, of the council of Economic and Cultural Affairs, on the question of development is of particular significance. Many architects of international programs have taken the stand that the culture and values of people must not be disturbed. However, Mosher states:

> Unless *attitudes and values* do change substantially, development will not come about. From acceptance of nature as beyond influence (except through ritual) those who would contribute to development must shift to viewing nature as manipulable. From dependence on outsiders, people must move to innovation and initiative. From deification of the status quo, they must change to a confident search for the new. Social customs designed to provide insurance against disaster at the margin of subsistence must give way to new customs providing elbow room for risky experimentation and capital formation.

For agricultural development to take place, there must be many such shifts in attitudes and values among farmers and throughout rural communities. But the roles of scientists, merchants, bankers, engineers, and administrators in providing the facilities agricultural development needs, and the roles of legislators and citizens in determining legislation and of editors and broadcasters in molding public opinion mean that agricultural development is not a matter for farmers and agricultural technicians alone, but is a product of the whole way of living, the whole culture, of a nation or of a region. The skills necessary to achieve agricultural development are chiefly those of farmers and agricultural technicians, but the understanding of agricultural development and the attitudes and values which determine its pace are as much those of administrators, politicians, editors, and even the whole politically conscious population through the effect these have on laws and on public programs and policies, as they are those of rural people. Consequently, the solution of some of the most critical rural problems must be achieved in the cities."[5]

Achievement in the cities, I think, is reflected by the signatures on the Organization of American States' Charter of Punta del Este, and the establishment of the Alliance for Progress by twenty governments of the Americas, including the United States, in which the governments pledged themselves to work toward certain goals. Among the goals of health, they pledged to work toward increasing life expectancy by five years during this decade. To do so, they must solve problems of malnutrition, poor sanitation, inadequate medical care facilities, and inadequate utilization of existing resources.

The first and most important step is to provide adequate potable water supply and sewage disposal to no less than 70 per cent of the urban and 50 per cent of the rural population. A second major goal is to improve nutrition. In the Alliance for Progress there is also recognition of the fact that the quality of manpower is essential if economic and social development is to take place. There has thus been agreement,

[5] Arthur T. Mosher, "Research a Rural Problem," in *Development of the Emerging Countries; an Agenda for Research* (Washington: The Brookings Institution, 1962).

at the policy levels, on the goals or guidelines for national development in which the city dwellers—those responsible for decision-making—have recognized the importance of health to the nation and the need for taking steps to protect and improve it. We have in the Alliance for Progress a statement of the community in recognizing both the existing problems in health and the steps needed to solve them. We do not have an indication of what percentage of national income or gross national product should be used for that purpose; this must be worked out in governmental and intergovernmental organizations in order to assure that health may contribute most effectively to development. But we do have a recognition on the part of medical workers that they feel a sense of responsibility for contributing more fully. In fact, I think I speak for the physicians of Latin America when I say that there is a very real sense of frustration because the framework of government that now exists will not permit the most effective utilization of the skills and knowledge. The physicians of Latin America are asking for an opportunity to contribute fully to the social and economic development called for under the Alliance.

As we look at programs developed over the years, we find that, little by little, the health worker is learning to capitalize on this background of interest and tradition. The people themselves are ready and willing to contribute to projects which will benefit them, the construction and maintenance of systems of water supply and sewage disposal, the building of roads, of schools, of clinics.

What has been lacking is a massive continental approach to the problem of health. I believe that we now have an opportunity and responsibility to utilize the desires of individuals and communities for better health in a way designed to bring the benefits of modern medical science to the Americas. The problem is to find out how best to do this, how to set up the administrative framework, how to fix priorities, how to train

and utilize the manpower, and finally how to provide the necessary fiscal and logistic support.

There is a recognition on the part of the health program administrators of the Americas that they have got to be tough in setting priorities. They know full well that health does not constitute the only claim on national resources. We are, in the Americas, making real progress in the improvement of the health of the people and in assuring more than ever before that health may contribute to, and benefit from, social and economic development.

2

Health Problems of Rural Communities

William H. Stewart

The types of health problems of any rural community depend upon, and in most instances are the result of, the state of development or lack of development of the natural, social, economic, and human resources of the area and nation within which the rural community is situated. One can easily visualize the primitive rural situation where existence is at the subsistence level and endeavor, severely limited by the absence of usable resources, both human and material, is committed entirely to maintaining life. Similarly, one can visualize the opposite; the rural setting in a well-developed area where the fruits of effort go far beyond mere subsistence and are, therefore, available to raise the standard of living and the level of health.

Most developing nations fall between these two extremes. However, given a few demographic, economic, and other characteristics of an area, one can decide which of the two extremes the area under consideration most nearly approximates. If it were known that a particular area was located in the tropical zone, that the per capita income was low, the infant mortality rate high, and a few other similar characteristics, it is quite possible to describe, in fairly specific terms, the health problems of rural communities in that area; and the converse is true also.

For this reason, I have chosen to describe the health problems in two different situations; first, those in a newly developing nation and, second, those in a well-developed nation.

Health Problems in Rural Communities in Newly Developing Areas

While it is customary for physicians to discuss health problems in terms of disease entities, I have elected to consider them in five groups, some of which contain disease entities within them and some of which do not. This approach allows for discussion of ways and means of meeting the health problems and, since the answers to the health problems in rural communities in newly developing areas do not lie, for the most part, with specific therapies for specific diseases but rather with social action which affects whole classes of health problems, it requires classification.

My first group of health problems are those which are due to faulty nutrition. These can be the result of either a deficiency in total calories or a deficiency in essential nutrients or both. Solution is absolutely essential for the development of human resources in any area. But solution is extremely difficult since it is embodied in the development of the area itself. Improvements in agricultural practices, development of sufficient commerce to mobilize and systematize the distribution of food, and changes in customs and mores are all part of meeting the basic causes of this class of health problems. The difficulty is commitment of sufficient resources from a scarce supply in order to improve the quantity and quality of food, a commitment of resources where the results are not directly measured in material gains, but in the more abstract measurement of human values.

Recently the outlook for solution of this major public health concern has brightened as various substitutes have been developed. For example, at the Institute of Nutrition of Central America and Panama in Guatemala City, a protein-rich vegetable flour mixture, Incaparina, has been developed to meet basic needs and yet be acceptable in taste and flavor. It is possible that advancing technology may provide the means

by which the deficiency diseases may be overcome with a minimum commitment of scarce resources required.

Parasitism, including the infectious and communicable diseases is the basis of the next group of health problems. Measures to meet this class of health problems rest on the principles of either eliminating the parasite or organism from the environment—for example, through purification of water for drinking purposes or through vector control—or diluting the organism in the environment through personal hygiene and cleanliness to the point where it is, for the most part, noninfectious, or by building the body's defenses against specific organisms through immunization.

First among the requirements to meet this health problem is improvement of environmental sanitation. The primary difficulty in making this improvement is to bring enough water to all the people. The goal is an abundance of water of high quality, but if forced into making a choice, I believe easy access to quantities of water coupled with a change of attitude toward the necessity of cleanliness among the people takes priority over a limited supply of water of high quality. I recognize that the latter may be more easily accomplished, but I think it has limited effect, albeit beneficial, in meeting this enormous health problem.

Parenthetically, it is interesting to note the increased acceptance by economists and bankers of the priority of water and its suitability as a vehicle for capital investment. Increasing attention is being paid by them to the social as well as the financial implications of water supply.

Immunization is without question an essential measure to combat the infectious diseases which ravage the susceptible populations in rural areas of newly developing nations. The principal problem is how to get the antigen into the people at the proper time. The only answer is to have someone available on the spot who knows how to administer the antigen and is accepted in this role by the people. This person need

not be a physician or nurse but can be a health worker, an individual who is preferably a member of the society to be immunized and who has been trained in the techniques of immunization.

Finally, given a supply of antigen and a trained immunizer, there still is required acceptance on the part of the people. Perhaps this is an additional role of the health worker. The hope would be that acceptance would be active—a seeking out of the procedure, but I am afraid we will have to be content, for the most part, with passive acceptance.

Accidents form the third category of health problems in rural areas of newly developing nations. They include those which are serious and life-threatening from the moment they occur and those which are less serious but which may lead to crippling or life-threatening situations if not properly handled when they occur.

The solution to the immediately serious accident is proper first aid followed by transport to an urban center for definitive treatment. The solution to the less serious accidents which may become complicated is proper first aid and simple treatment on the spot in order to limit crippling and infection. Ideally, both first aid and transportation should be available. However, in a rural area of a newly developing nation, simple treatment must take priority. The development of transport facilities and definitive treatment centers in urban areas may require resources that have not yet emerged. But proper first aid of simple fractures and lacerations which are common in rural areas can do much to cut down residual crippling conditions. The health worker, trained in immunization techniques, could also be trained in the fundamentals of first aid.

Acceptance by the people is essential, but the fortunate results of proper first aid and rational care of injuries are powerful voices for acceptance.

Up to this point, there has been one universal requirement underlying the various methods which have been described

for meeting health problems in these areas. This requirement is acceptance by the people, for acceptance and incorporation of health measures into the way of life are essential if innovations are to have permanence.

The fourth and fifth categories of health problems in rural areas of newly developing nations comprise the state of awareness or the expectations of the people of the area and the system which already exists to cope with health problems.

It is difficult to picture a situation where there is no awareness, no anticipation of how things could be. Yet, when a newly developing nation is altering a way of life that may have existed unchanged for many centuries, a lack of awareness is quite understandable. Any permanent change within the level of health toward that of the more developed nations is predicated on creating awareness. Expectations are strong motivating forces which can change attitudes of people toward health programs from one of non-acceptance or at best passive acceptance, to one of active pursuit. There is, of course, the danger of creating awareness and expectations beyond any hope of achievement. The results can be disastrous.

While there are many ways to effect a change in attitude of people, one of the methods most familiar to public health workers is the demonstration. Demonstrations, however, must go beyond potentialities. They should include participation by the recipients, for there must be an active learning process and not mere passive acquiescence if anything of permanence is to be achieved. This requirement makes demonstrations in rural areas difficult since active participation may require a level of technical skill, however elementary, beyond that available. A training program may be the first necessary step toward a satisfactory demonstration.

The final health problem which must be met in rural situations in developing areas is closely related to that just discussed. This is the existing system which the society has developed for contending with disease and illness. However

primitive and non-scientific the system may be, it is usually well established as part of the way of life. Any attempts to change attitudes and actions of the people toward illness and disease, to enhance their awareness of cause and effect, to modify their ideas of human values would, in many instances, conflict with the pre-existing system. Some accommodation will have to be made if there is to be any permanent acceptance of new measures introduced to meet the health needs of the rural area.

Health Problems of Rural Areas in Developed Nations

Turning now to the rural areas in developed nations, we find a new set of health problems. With certain exceptions, they are no longer those due to inadequate nutrition or poor environmental sanitation or lack of immunization, but rather they are problems related to bringing high quality medical care to the rural dweller or bringing the rural dweller to the medical care. In this case, I must use the United States as my model, because the methods of meeting this health problem will vary depending on the type of organization of health services found in the developed nation. In the United States, the health problem of rural areas can be classified into general health problems which are universal, and more specialized problems which have their own peculiar characteristics.

It is important to recall the major changes which have occurred in medicine in this country over the last two or three decades. Three major changes have had the greatest impact on the delivery of health services and have created the general health problems which we now face in rural areas in this country.

First among these changes is specialization. In 1949, 66 per cent of all physicians in private practice were general practitioners. In 1962 this had declined to 41 per cent, and there are very few indications this trend will not continue

into the future. The impact of specialization has affected the urban-rural distribution of physicians in an adverse manner. While the proportionate decline in general practitioners has been about the same in urban and rural areas, the proportionate gain in specialists has been almost entirely urban. The net result is an absolute decline in the number of physicians in rural areas coupled with a concentration of specialists in the towns. The principal effect on rural medicine has been to shift the locus of medical care. Instead of care being brought to the rural resident, he must seek it in the surrounding urban centers. This shift, while mitigated in part by the automobile and good roads, raises logistical problems of how to get the rural person in need of care to the proper place and to the proper specialist at the proper time. It is particularly difficult in an emergency or where the patient is suffering from a chronic illness.

The second change which has occurred in medicine in this country is the emergence of the hospital as the principal focus of medical care. The Hill-Burton hospital construction program was designed to provide a better distribution of hospital beds, particularly in rural areas, and this purpose has been accomplished for the most part. But the rising costs of hospital care and the difficulty of staff shortages in hospitals, particularly physicians and nurses, affect the smaller, more isolated hospital severely and have an adverse effect on the quality of care provided. This is the second general health program of rural areas in this country.

The third change is the development of third-party systems of payment for medical care. Prepayment is essential to meet the costs of modern medicine. However, most prepayment relies on group participation with risk sharing by the group in order to keep premium costs at a reasonable level. Rural residents, for the most part, do not have the opportunity for group coverage. As a consequence, they must pay more for the identical protection than an urban resident under a

group plan. Unfortunately, less protection is usually the outcome. The financing system for medical care which has developed in this country over the last two decades is geared to urban-industrial situations and does not serve the rural resident in an equal manner.

According to the National Health Survey:

1. Fifty per cent of rural farm dwellers had no insurance. About 33 per cent of rural nonfarm residents and less than 30 per cent of urban residents had no insurance.
2. Urban people were most likely to have a Blue Cross or Blue Shield type of coverage. The insurance held by rural farm people was likely to fall in the category labeled "other."
3. The proportion of the hospital bills paid by insurance averaged 70 per cent for urban and rural nonfarm people. For rural farm people, it averaged 55 per cent.
4. The proportion of persons discharged from hospitals with more than three-fourths of the bill paid by insurance averaged 50 per cent for urban and rural nonfarm patients. For rural farm patients, it averaged 39 per cent.[1]

In addition to these nationwide health problems of rural areas, there are three more specialized problems.

Machines have greatly eased the burden of farm work. They have also made the character of work hazards more and more like those of industry, but with far fewer controls. Safety devices may be lacking or misused. Overfatigue may result from long hours of work during the peak season. Mechanized equipment may be used by farm youths or temporary seasonal workers without adequate training or supervision.

Expanded farm operations made possible by machines have created needs for short-term workers who migrate from

[1] U. S. Department of Health, Education, and Welfare, *Interim Report on Health Insurance, United States, July-December 1959*, Public Health Service Publication No. 584-B26 (Washington: U.S. Government Printing Office, 1960).

place to place. It is estimated that close to one million people form this labor pool. Health services especially geared to meet the needs of a temporary influx of farm workers and their families seldom exist. Lack of residential status is likely to deny the use of community services even in the place they call "home." Adequate temporary housing, provision of field toilets, safe drinking water, hand-washing facilities, and a safe means of preserving food become increasingly important as larger numbers of migrant field workers are employed.

Finally, in some areas of the United States, rural people, bypassed by economic and social change, continue to live at a depressed level. They may live in the midst of relative prosperity, but are themselves handicapped by farm units that are too small to provide an adequate family living; by age which forces them into semi- or complete retirement with inadequate means to support a satisfactory level of living, including adequate health care; or by other economic, social, or physical disabilities. Other whole communities have become standard where farm land has been depleted, or forests and mines exhausted. The people live in dilapidated homes with few conveniences. They have little access to health or other community services.

In summary, I have attempted to describe the health problems in rural areas in two extremes, those of a newly developing nation and those in a well-developed nation. I have chosen to describe these health problems chiefly in social terms, for I believe the answers to these problems, regardless of the stage of development, depend upon social action. The goal in either case is the development of human resources and the strengthening of human values. I believe that this development cannot occur by itself. It is interwoven with the concomitant evolution of economic, social, and natural resources. These resources are not competitive but complementary to each other.

3

Health Objectives in Brazil

Henrique M. Penido

An exchange of ideas on methods of improving health conditions in rural areas is valuable at a time when the nations of the continent are engaged in the gigantic task of establishing an impressive development program, the Alliance for Progress. The differences of opinion and interpretation on the development of such a program, expressed by responsible leaders of the hemisphere, clearly points to the need for securing a better understanding on the relative importance of a given problem in connection with the stage of development of a given country, if we wish to carry on this program in a successful and efficient way.

Since its discovery by the Portuguese in 1500, land occupation in Brazil has had a marked economic character. The fundamental idea was the rapid extraction of wealth, and the land was occupied according to this purpose. First brazilwood was exported; later gold and precious stones. Only when ownership of the land was challenged by other nations did Portugal start a more permanent occupation of its colony. Brazil soon became a country devoted chiefly to agriculture, conditioned to slave labor. This system forced the inhabitants that came to the new land to scatter over vast areas, the main farmhouse becoming the social center. However, the necessity of controlling the slaves made landowners and laborers live in close proximity. With the abolition of slavery dispersion of the population was aggravated. After they became free, land workers

migrated to distant places and established themselves far from the main farmhouse and social center. This is the pattern that is still found today in many areas of Brazil: laborer's houses, distant from each other, but near the tract of land cultivated by them and their families.

A similar pattern exists in social relations: a sharp separation between rural workers and land owners, as if they belonged to two different worlds. Lack of initiative is characteristic of the laborer, and in order to take care of his own needs and those of his family he applies to his boss or to the political leader, remaining entirely dependent on their good will to solve his problems.

With the necessity of commercialization of agricultural products, villages and later small towns appeared in strategical locations where government agencies, merchants and doctors were located. These settlements had in reality very little to do with the surrounding rural areas, except for the days when exchange of goods took place on holidays and celebrations, or when, for some specific purpose, someone from the surrounding area would come into one of them, for example, when someone wished to consult a doctor. As far as their daily routine was concerned these towns were as separate from the rural areas as the two social levels already described.

With such a background, "community" spirit could not have developed in Brazil as it did in the United States. The word "community" has a specific sociological meaning: a population and a geographical area with common values and activities, brought together by a deep common feeling and a specific way of life. Quite the opposite happened in Brazil. Many sociologists and anthropologists who have studied our way of life, including Charles Wagley,[1] Emilio Willems,[2]

[1] Charles Wagley, "Community Studies in Brazil from a National Point of View," *Sociologia*, XVI (May, 1954), 3-22.

[2] Emilio Willems and Gioconda Mussolini, *Buzios Island: A Caiçara Community in Southern Brazil* (Seattle: University of Washington Press, 1952).

Donald Pierson,[3] T. Lynn Smith,[4] Harry W. Hutchinson,[5] Marvin Harris,[6] and Kalervo Oberg,[7] consistently found in our rural areas a rigid social dichotomy, creating a sharp obstacle towards a common action.

Although considerable changes have occurred, the social and cultural aspects described can still be found in many regions. It is interesting to notice that while people easily accept certain improvements resulting from recent technological development—the radio, television, movies, etc.—the same is not true in respect to certain new concepts or new interpretation of phenomena. For instance, they do not readily accept medical orientation or a change in their eating habits and general hygiene. They will not abandon midwives and charlatans. On the contrary, they keep house in the same way as before and do not react to the loss of their children in the early years of life; nor will they accept scientifically proven facts concerning health and illness. Although every effort is made by the government to try to change the existing health status, the majority of the people limit themselves to being passive witnesses of this effort, and will not heal or try to solve their own problems. Even in towns, medical services must face unsatisfactory sanitary conditions. Hospitals and health centers are frequently unable to take proper care of a sick and ignorant population that only seeks these health units after exhausting other non-technical resources, or in order to benefit from the free distribution of drugs or milk, at the same time giving little attention to advice on preventive measures against illness.

If this happens in towns and villages in the rural areas

[3] Donald Pierson, *Cruz das Almas, a Brazilian Village* (Washington: U.S. Government Printing Office, 1948).

[4] T. Lynn Smith, *Brazil: Portrait of Half a Continent* (New York: Dryden Press, 1951).

[5] Harry W. Hutchinson, *Village and Plantation Life in Northeastern Brazil* (Seattle: University of Washington Press, 1957).

[6] Marvin Harris, *Town and Country in Brazil* (New York: Columbia University Press, 1956).

[7] Kalervo Oberg, *Chonin de Cima* (Rio de Janeiro, 1956).

it is practically impossible to perform any constructive work. The drinking water available presents no degree of potability. Agricultural practices follow the old method of devastating the forests, burning the wood, and planting the land almost to exhaustion. The poor economic status, the very low level of education, and the inefficient technology do not allow the people to better their situation or improve their working conditions. (See Map 1 and Table 1.)

According to Keoppin's classification three different types of climate—warm and humid, semi-arid, and mesothermic—can be found in Brazil, which covers an area of 3,286,000

Table 1. *Brazil—Population Density by Federated Unit, 1960*

unit	*population per sq. mile*	*unit*	*population per sq. mile*
Rio Branco	0.34	Rio Grande do Norte	56.54
Rondônia	0.75	Santa Catarina	58.22
Amazonas	1.19	Ceará	58.40
Amapá	1.30	Distrito Federal	63.01
Mato Grosso	1.92	Espírito Santo	78.19
Acre	2.72	Sergipe	89.54
Pará	3.26	Paraiba	92.72
Goiás	7.87	Pernambuco	109.01
Piauí	13.03	Alagoas	119.06
Maranhão	20.41	São Paulo	135.56
Bahia	27.71	Rio de Janeiro	209.17
Minas Gerais	43.51	Guanabara	7,314.73
Rio Grande do Sul	52.76	*Entire Country*	21.73
Paraná	55.66		

Number and Area of Latifundias,* 1950

total number of latifundias: 2,064,842
area in acres: 580,527,765
latifundias with more than 2,500 acres: 32,290
percentage of total number: 1.6
total area of latifundias with more than 2,500 acres: 296,503,175
percentage of area of latifundias with more than 2,500 acres: 50

*Large-scale land holdings.

square miles and extends from latitude 4° North to latitude 30° South. These types of climate generate favorable conditions for the development of numerous parasitic diseases that completely dominate the nosologic picture of the rural areas.

Shigella and Salmonella infections are common among all age groups, but constitute the important cause of death among newborns and infants.

Almost all the country can be considered a malarious endemic area, and this disease has a most direct bearing on the development of rural areas, principally after the appearance of certain strains of Plasmodium falciparum resistant to the new antimalarial drugs. (See Map 2.)

Verminoses are universally prevalent, hookworm being the most important of these diseases. In certain areas the problem is seriously aggravated by the presence of Schistosoma mansoni. Recently several isolated foci of this disease have been discovered, indicating that schistosomiasis is invading new areas. (See Map 3.) Considering the relative ineffectiveness of the existing methods of snail control and the difficulties of treatment, this is a matter of increasing concern.

Another important parasitic disease is American trypanosomiasis or Chagas' disease. (See Map 4.) Most affected are the southern, eastern, and west-central regions. Yaws and trachoma are prevalent in extensive areas. In 1956 the estimated number suffering from these diseases was 600,000 and 1,000,000, respectively, although with the intensive control work of the Departmento Nacional de Endemias Rurais, these figures have been sharply reduced. (See Maps 3 and 4.)

Filariasis is found in certain areas such as the Amazon and the northeast, where the towns of Belem and Recife are the main foci. Wuchereria bancrofti is the dominant parasite, although cases due to infection by Mansonella ozzardi have been found in the western part of the Amazon basin.

Visceral Leishmaniasis or Kala-Azar is found in certain areas, and the estimated number affected is 100,000.

Virus diseases are significant mostly in the northern region, where the Amazon forest offers an ideal environment for the circulation of a large variety of arbor-viruses, the yellow fever virus being the most dangerous and widespread. (See Map 2.) Recent researches undertaken by the Instituto Evandro Chagas in Belém with the support of the Rockefeller Foundation have brought out, unfortunately, the importance of this area as a continuous breeding center for virus, and a variety of arbor-viruses have been isolated and typed.

Special consideration must be given to tuberculosis, which is slowly but continuously invading rural areas, and leprosy, which is still prevalent in the north and west-central regions.

The high mortality rates still prevailing in the younger age groups and especially among infants is the result of the impact on the population of these highly infectious and parasitic diseases, aggravated by malnutrition. (See Table 2.)

To fight diseases of such different origins and types over such a large area as Brazil is unquestionably a challenge for all those concerned with the improvement of health conditions and a tremendous burden on the nation's budget. In spite of this rather desperate picture, it may be said that conditions have improved in the last thirty years. Eradication of Aedes aegypti has resulted in the disappearance of urban yellow fever, and plague control has confined the disease to small inexpressive foci in the hinterlands. Eradication of Anopheles gambiae from the northeast was of major importance in the control of malaria in a large area, and the economic development of the southern regions has considerably improved health conditions in the heaviest populated area of the country.

The estimated number of active physicians in the country is thirty thousand, or one to twenty-five hundred inhabitants, approximately. Although this figure may be considered satisfactory, the distribution is very poor because of economic differences between the various regions of the country. The causes that contribute to this unbalanced distribution include

Table 2. *Brazil—Mortality of Particular Age Groups, by Areas*

age group (years)	Pernambuco (provisional registration area–1960)[1]	counties of Recife & Olinda (provisional registration area–1960)[2]	10 towns in state of Alagoas (1960)	21 towns in state of Sergipe (1960)	19 towns in state of Bahia (1960)	18 towns in state of Rio Grande do Norte (1960)	municipality of São Paulo (1959)
less than 1	51.4	42.3	56.0	52.3	37.5	68.5	24.8
1 – 4	15.5	13.1	13.0	11.7	18.2	8.5	6.3
5 – 19	5.2	4.3	3.6	4.2	5.6	2.6	3.6
20 – 49	10.6	16.9	9.2	9.3	14.6	6.5	21.0
50 and above	17.3	23.4	18.1	22.4	24.1	13.8	44.2

[1] The provisional registration area was established through a joint plan of Serviço Federal de Bioestatística, Fundação S.E.S.P., and Serviço de Estatística da Saúde, and includes, in the case of Pernambuco, 66.9 per cent of the state's population.

[2] The cities included are those appearing in *Boletim de Bioestatística e Epidemiologia; Fundação, S.E.S.P.*, No. 10, Jan.-Dec., 1960.

the low cultural level found in small towns and rural districts, coupled with poor living quarters; communication difficulties with teaching centers, inducing a sense of professional isolation and frustration among physicians who seek work in the interior; the low income that does not provide a reasonable reward for the physician's ability; and the orientation given to students in medical schools, stressing specialization and research rather than general practice.

It is interesting to notice in reference to this last point that according to Professor David Rutstein, Head of the Department of Preventive Medicine, Harvard University School of Medicine, a similar situation is found even in the United States. His proposed solution is the adoption of two medical curricula, one for research workers, another for general physicians.[8]

From the picture described we may roughly divide Brazilian population in two main groups: one composed of those living in or around the larger urban centers that profit from the existence of reasonable medical facilities, and the other composed of those living in small towns and rural areas, with poor or no medical facilities. This situation is clearly brought out in a recent study on medical facilities in northeast Brazil, comprising nine of the country's twenty-two states. (See Tables 3, 4, and 5.)

In spite of the efforts that have been made in the last decade to provide more and better facilities for the teaching of medicine, the number of places in the medical schools is still far from adequate in relation to the population growth (30 per cent between 1950 and 1960). The policy of medical schools to resist increasing the number of students until their facilities enlarge does not promise any significant reduction in the population-physician ratio in the foreseeable future.

These obstacles have not succeeded in lowering the interest of the younger generation towards the study of medical sci-

[8] David D. Rutstein, "Physicians for Americans. Two Medical Curricula: A New Proposal," *Lancet*, I (March 4, 1961), 498-501.

Table 3. *Brazil—Population-Physician Ratio in Capitals and in the Interior of the Northeastern States*

state	*area*	*population*	*number of physicians*	*population per physician*
Maranhão	capital	159,628	127	1,257
	interior	2,332,511	33	70,682
Piauí	capital	144,799	93	1,557
	interior	1,118,569	60	18,643
Ceará	capital	514,818	284	1,813
	interior	2,823,038	62	45,533
R.G. do Norte	capital	162,537	120	1,354
	interior	994,721	84	11,842
Paráiba	capital	115,117	181	636
	interior	1,862,906	170	10,958
Pernambuco	capital	797,234	1,017	784
	interior	3,339,666	153	21,828
Alagoas	capital	170,134	140	1,215
	interior	1,100,928	65	16,937
Sergipe	capital	115,713	94	1,231
	interior	644,560	29	22,226
Bahia	capital	655,735	1,107	592
	interior	5,334,870	504	10,585

ences, as can be seen by the consistent level (about 20 per cent) of applications to medical schools among students seeking a university degree (see Table 6), although the proportion between applicants and vacancies is highest among all university schools (7.8 applicants to each vacancy in 1962), resulting in a very

Table 4. *Brazil—Municipalities according to Population-Physician Ratio, State of Bahia, 1961*

no. of inhabitants per physician	*number of municipalities*
0 – 4,999	16
5,000 – 9,999	34
10,000 – 19,999	52
20,000 – 29,999	19
30,000 – 39,999	7
40,000 and above	4
total	132

Note: 62 municipalities had no physician. In Salvador there are 592 persons per physician. About 68 per cent of all doctors in the state reside in the capital city.

Table 5. *Brazil—Municipalities according to Population-Physician Ratio, State of Piauí, 1961*

no. of inhabitants per physician	*number of municipalities*
0 – 4,999	3
5,000 – 9,999	2
10,000 – 19,999	12
20,000 – 29,999	6
30,000 – 39,999	1
total	24

Note: 47 municipalities had no physician. In Terezina there are 1,557 persons per physician. About 61 per cent of all doctors reside in the capital city.

low rate of admissions (20.9 per cent in 1962). (See Tables 7 and 8.)

Fortunately the interest in research and improvement of health problems has not subsided. Universities and research centers, including the Oswaldo Cruz and Microbiology Institutes in Rio de Janeiro, Butantan and Adolpho Lutz in São Paulo, Rural Endemic Diseases and Ezequiel Dias in Belo Horizonte, Ageu Magalhaẽs in Recife, Evandro Chagas in Belém, and Biológico in Porto Alegre, have carried out an impressive amount of work in the solution of our principal

Table 6. *Brazil—Distribution of Applicants to Principal Faculties 1954-62: percentage of total number of applicants*

faculty	*1954*	*1957*	*1958*	*1959*	*1960*	*1961*	*1962*
Agronomy	1.80	1.83	1.98	2.15	2.29	2.08	2.36
Architecture	2.60	2.16	1.66	1.73	1.48	1.76	1.76
Dentistry	8.89	6.94	7.26	6.19	5.45	4.58	3.66
Economics, Accounting, & Actuarial Statistics	4.97	6.02	5.54	6.44	6.46	7.85	9.04
Engineering	15.17	17.97	18.28	17.73	19.26	20.77	22.40
Law	22.20	19.95	20.06	20.16	16.79	15.61	16.00
Medicine	21.73	22.63	20.36	21.87	22.53	21.88	22.20
Pharmacy	2.45	1.93	1.83	2.03	1.71	1.67	1.41
Philosophy, Science, & Humanities	13.08	15.21	14.56	14.89	16.14	15.16	13.99
Veterinary Medicine	1.11	0.91	0.83	0.75	0.73	0.82	0.66
Other	6.00	4.45	7.64	6.06	7.16	7.82	6.52

health problems, following a tradition established by eminent scientists such as Oswaldo Cruz, Carlos Chagas, Afranio do Amaral, Adolpho Lutz, Pirajá da Silva, Gaspar Viana, Manuel de Abreu, and others who made important contributions to the solution of problems that plague humanity.

An important role is being played in the acquisition of new knowledge by fellowship programs, sponsored by the Brazilian government through the Campanha de Aperfeiçoamento de Pessoal de Nível Superior (CAPES); by international agencies, including the World Health Organization and the Pan American Sanitary Bureau; by governments of friendly states, including the United States of America and others; and by private organizations, including the Rockefeller, Kellogg, and Ford Foundations.

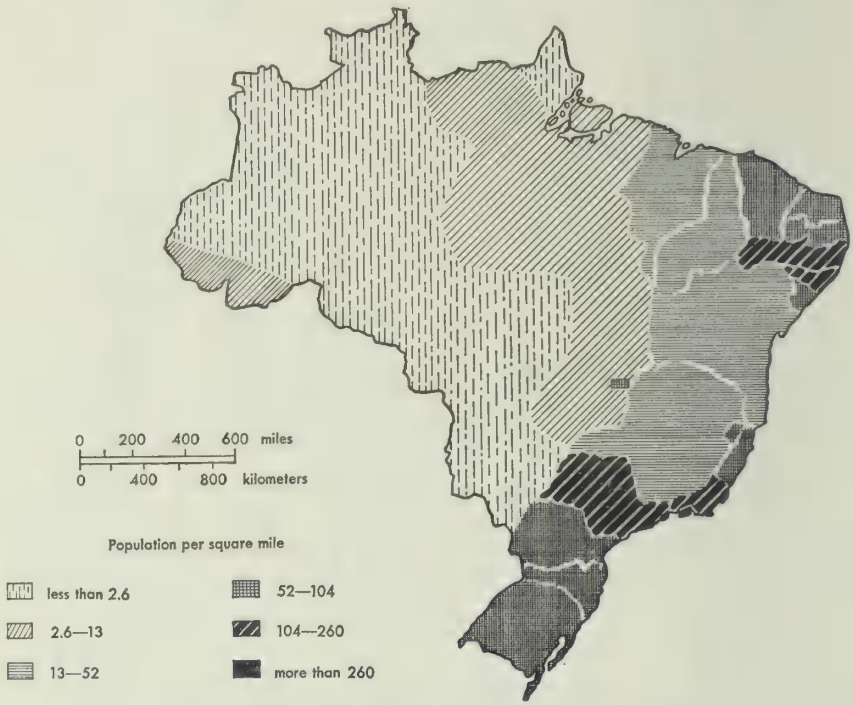
These opportunities lead to optimism although outstanding difficulties have to be overcome before any definitive im-

Table 7. *Brazil—Number of Applicants and Registered Students in First Academic Year; Relation of Number of Applicants to Number of Places Available in First Year; Percentage of Approval and Enrollment in First Year of Students Who Passed Entrance Examination, in Different Branches of Higher Education in Entire Country, 1962*

faculty	*number of applicants*	*number accepted*	*number of places in 1st year*	*number of applicants per place*	*percentage applicants accepted*	*students completed first year*	*total enrollment in first year*
Administration	479	170	370	1.3	35.5	168	181
Agronomy	1,677	702	852	2.0	41.9	701	805
Architecture	1,249	361	460	2.7	28.9	361	428
Dentistry	2,598	1,509	1,955	1.3	58.1	1,472	1,649
Diplomacy	82	42	25	3.3	51.2	42	44
Economics, Accounting	6,416	3,398	4,826	1.3	53.0	3,166	3,808
Engineering	15,892	4,143	4,372	3.6	26.1	3,656	4,189
Fine Arts	513	396	709	0.7	77.2	389	428
Geology	425	138	130	3.3	32.5	107	135
Industrial Chemistry	41	21	50	0.8	51.2	21	27
Journalism	497	331	470	1.1	66.6	327	390
Law	11,342	5,906	6,910	1.6	52.1	5,752	6,746
Library Science	280	208	385	0.7	74.3	205	223
Medicine	15,748	3,296	2,030	7.8	20.9	1,992	2,241
Museum Science	7	7	50	0.1	100.0	7	43
Music	519	369	1,190	0.4	71.1	287	421
Nursing	272	220	632	0.4	80.9	213	241
Pharmacy	1,003	649	1,040	1.0	64.7	640	762
Philosophy, Science, & Humanities	9,924	6,535	18,223	0.5	65.8	6,412	7,489
Physical Education	268	189	580	0.5	70.5	180	276
Social Service	888	771	1,201	0.7	86.8	762	831
Sociology & Political Science	237	207	284	0.8	87.3	195	224
Statistics	119	77	100	1.2	64.7	77	126
Veterinary Medicine	466	253	355	1.3	54.3	252	339
totals and averages	70,942	29,898	47,199	1.5	59.0	27,384	32,046

Table 8. *Brazil—Number of Institutions of Higher Education and Student Enrollment for Ten Principal Faculties in the Country*

	number of institutions						*number of students*						*number of students per institution*					
faculty	1954	1957	1958	1959	1960	1961	1954	1957	1958	1959	1960	1961	1954	1957	1958	1959	1960	1961
Agronomy	12	12	12	12	12	12	691	872	1,051	1,218	1,484	1,471	58	73	88	101	124	123
Architecture	7	7	7	7	7	7	995	1,027	879	979	948	1,246	142	147	126	140	135	178
Dentistry	28	31	32	32	34	34	3,408	3,309	3,847	3,512	3,527	3,232	122	107	120	110	104	95
Economics	32	39	39	43	44	47	1,904	2,869	2,938	3,651	4,169	5,539	60	74	75	85	95	118
Engineering	23	29	29	29	31	32	5,818	8,560	9,694	10,055	12,454	14,663	253	295	334	347	402	458
Law	37	43	45	45	52	51	8,514	9,506	10,635	11,430	10,849	11,023	230	221	236	254	209	216
Medicine	23	25	25	26	26	31	8,334	10,781	10,794	12,403	14,567	15,449	362	431	432	477	560	498
Pharmacy	21	21	21	21	23	22	940	919	968	1,149	1,104	1,180	45	44	46	55	48	54
Philosophy, Science, & Humanities	38	51	55	57	68	70	5,015	7,248	7,720	8,444	10,438	10,701	132	142	140	148	154	153
Veterinary Medicine	8	8	8	8	8	8	424	435	439	424	473	577	53	54	55	53	59	72
totals and averages	229	266	273	280	305	314	36,043	45,526	48,965	53,265	60,013	65,081	146	159	165	177	189	196

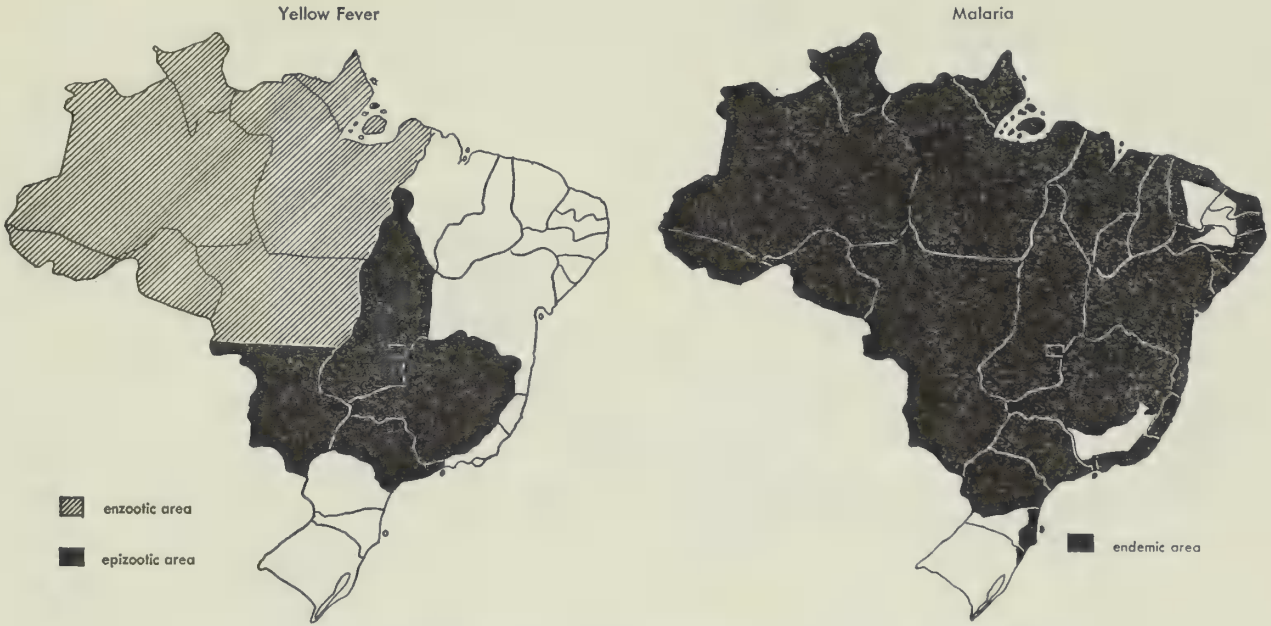


Map 1. *Brazil—Population Density, 1960*

provement in existing rural health conditions can take place.

Improvement of health conditions of a particular country must be considered in relation to the general status of development, for the politico-economic factor has a direct bearing on the solution. This is a more important fact than generally realized; it constitutes today a fundamental point of understanding (or misunderstanding) between countries that have reached a high degree of development and those that realize the need for improvement and wish to narrow existing differences.

Political leaders are, in general, alert to the existence of a population constituted in part by unlearned people living in



Map 2. *Brazil—Geographic Distribution of Yellow Fever and Malaria*

Map 3. *Brazil—Geographic Distribution of Schistosomiasis and Yaws*

Map 4. *Brazil—Geographic Distribution of Chagas' Disease and Trachoma*

poor conditions. Usually they sincerely desire to improve the lot of these people, but they are hampered by lack of money to solve the problem on a large enough scale. Thus arises the necessity for planning and assigning priorities for investments. If it is true that people need better health and education, then they need to improve considerably their earning capacity in order to pay for the necessary facilities. Large investments have to be made in the basic fields of production, including power, agriculture, metallurgy, and transportation, in order to improve earning capacity. In the absence of private resources to fulfil the demand in these fields, the government is forced to invest large amounts, thereby assigning a second class priority to the social field.

Another important factor is the outdated governmental administrative machinery that does not satisfy the new and changing needs of a developing country. This makes imperative the necessity for fundamental changes, including land, administrative, and other reforms now under discussion, in order to permit better conditions for the execution of programs in the various administrative fields. It is necessary to recognize, however, that even in the present situation many measures can be taken to improve existing conditions, such as the recent law that created a National Sanitary Fund for water and sewerage.

In the absence of a community way of life and of an adequate integration between urban and rural zones, with populations widely scattered and with socio-economic conditions so poor, how can one improve the health conditions in rural areas? It seems that in the presence of such conditions the objectives to be attained in the near future should be very modest. Emphasis should be given to the improvement of environmental conditions, in particular the supply of potable water, removal of excreta, and intensive control of vectors of certain diseases, together with the adoption of preventive

measures of high technical simplicity that can be applied to a great number of people, for example smallpox immunization.

The improvement of medical facilities will have to follow a much slower rhythm of development because the scarcity of local economic resources places the great burden of providing medical care to the population upon the central government. The immediate objective should be the construction of medical facilities (integrated health units, and hospital-health centers) in towns strategically located, in order to bring the means of treatment and recovery as close as possible to the population. From these centers services can gradually expand according to circumstances.

The goals established in the Charter of Punta del Este seem extremely difficult to reach in Brazil in the next decade, unless enough capital from outside sources is found to cover investments in the basic fields of productivity, thus liberating internal resources for social development.

In reference to the role of the individual, the physician, and the community in the development of a rural health program in Brazil, the former two are the most important forces to motivate. When a strong community spirit similar to that in the United States is absent, the individual local leader or militant politician will play a major role of liaison between the inhabitants of small communities or rural areas and the program officer. This does not mean that the community factor should be entirely disregarded, for there are many examples of the way in which it was possible to arouse community spirit in favor of health programs, particularly when these programs have a bearing on the welfare of the people. It is thought, however, that in Brazil the principal role will be played by the physician, for his social function and his high degree of education easily convert him into a respected leader of considerable prestige. His role could certainly be improved if the schools of medicine would give greater

emphasis in their medical curricula to the social aspects of the profession and the behavior of individuals and communities.

It is important to emphasize the role of the central government in the solution of the problem in Brazil and in many of the Latin American countries, for at the present moment correction of certain distortions resulting from the socio-economic status, including the responsibility for medical care to which reference has been made, will depend strongly on government action.

4

Health Objectives in Canada

Victor C. Goldbloom

Two developments of recent years are having a profound influence on the shape of Canadian health care. The first is the completion, in 1961, of the chain of provincial hospitalization plans all across the country under an arrangement of cost-sharing between the federal and provincial governments. Hospitalization for every Canadian citizen at standard ward rates is paid out of tax monies. There are exceptions here and there, and there are defects, some of which are serious, in the administration of the program, but the plans are here to stay and are rather well accepted by the medical profession. Organized medicine has offered criticisms, mostly constructive, and no opposition.

The second was the establishment, also in 1961, of a Royal Commission on Health Services by the federal government at that time. This Commission, which held hearings from coast to coast, is expected to present its report before the end of 1963 and will undoubtedly provide the most complete accounting of health care needs, objectives, and facilities and services ever compiled in Canada.

The medical profession has been obliged to reappraise itself in a way unprecedented on this continent. Local representatives appeared before the commission in each province and were searchingly questioned about motives, proposals, and the exact meaning of every word that was used. This is a healthy thing for the medical profession, because we tend to

fall into loose semantics, using allusive words which are jargon.

Because Canada is geographically and economically different from area to area, there are inevitable sectional interests. As a result no two provincial governments are alike. The British North American Act, which is Canada's constitution and implemented the separation from Britain ninety-six years ago, says very little about health. It divides powers and responsibilities into federal and provincial jurisdictions, placing "health" in the provincial jurisdiction. The Act states that the provincial governments have the right to establish and maintain hospitals and asylums. Because no mention is made of responsibilities at the federal level, the assumption has always been made that health is entirely a provincial responsibility.

In fact, the federal government is active in the health field in a great many ways, for example by undertaking responsibility for national groups including the armed forces, civil servants, and the indigenous population, the Eskimos and Indians. In addition, the federal government has found means of participating indirectly in the health field by establishing a program at the national level, offering it to the provinces on an elective, cost-sharing basis. One by one the provinces have voted to participate. The Province of Quebec, the last to fall in line, is at present opposing further federal activity in health and other fields, stating that the province wishes to establish its own program and has the right to finance it by taxation within the province.

Economically, Canada cannot match the United States, but the long, thin line of proximity has given Canadians a taste of the good life, including a very high quality of medical care. Therefore, the temptation is ever present for Canada to live beyond its means. The major health objective in Canada is not to develop a high quality of medical and general health care, but to make available such care to every Canadian citizen. The task of achieving this has obvious geographic, eco-

nomic, and educational implications, with overlying social and political factors.

The problem of making non-urban health care accessible concerns the population inhabiting "rural areas" and "remote areas." "Rural areas" are those where roads go, where the patient and his family can travel by car to the doctor or to the hospital. The "remote areas" are those that have to be reached by other means.

In the rural areas the health objectives are essentially the same as in the metropolitan areas, but the sociologic problems are different. For example, people living on the coast, in the Gaspé Peninsula, in Newfoundland, Nova Scotia, in British Columbia, tend to make their living either by fishing or lumbering. When they become sick, their illness has to be considered in terms of their ability to maintain their occupation.

If a person in Montreal or in Halifax has a stomach ulcer, he can see the doctor, be controlled by medication, and go about his business. If he needs to be watched closely with a consideration of hospitalization or more radical treatment, it is not too difficult to accomplish, and readjustments may be possible in the way in which he works. If a lumberjack has a gastric ulcer, he cannot be sent into the woods with no medical supervision, with no possibility of helping him if he has a hemorrhage, with no possibility of supervising his diet, even if a correct diet were available to him in a lumber camp. Therefore, this person is totally disabled, which places a burden on the community. This patient probably has no other skill, and because the community is a small one, there is limited scope for offering him any other employment. So diseases of this kind, which are treated in urban and semi-urban communities without particular thought given to the sociologic problems that they involve, are diseases of considerably greater significance in these rural areas. Even though there is access to major centers, this still does not provide for a person

in his home surroundings where he must live and make his living.

The advantage of roads and other communications has been chiefly in mitigating the isolation, not only of the patient, but also of the physician. Isolation is a significant psychological problem for the health worker who must devote himself to medical care in an area of this kind. The gravitational pull of the city is enormous, although the reasons are perhaps different from what they used to be. The physician of today in Canada is more specialized and more restricted because of his education; he is less broadly cultured and more dependent on the social contacts around him than on the resources that he may have within him. This has given rise to a kind of rhythmic going and coming of physicians between the urban and rural areas. A considerable proportion of those who go to the rural areas, do so with the idea that it is a temporary arrangement and that after a time they will return to an urban area and enjoy the life that the city offers.

There has been some reversal of the trend in recent years because of efforts made to recruit medical students locally. There has not been a great deal of government action to offer inducements to practice in these areas, but there has been some local action. A boy or girl who is interested in the study of medicine may be given financial help and encouragement to come back to the native community and practice there. This has been quite successful in many areas, but there is still a serious shortage of manpower in many others.

In rural areas working hours are long and arduous and there is less variety in the day's activity. This has an adverse effect on the physician. The average Canadian doctor works over sixty hours per week, and excluding those who for reasons of age or health are restricting their activity and those who have administrative or full-time hospital appointments and whose days are reasonably ordered, many physicians work ninety or more hours per week. It is an adverse factor against

rural practice, and therefore the trend again manifests itself for the rural physician to go back to the city and specialize, not necessarily because he will make more money—many doctors are making excellent incomes in the rural communities—but because he prefers to have a more ordered life with a greater professional prestige. The decrease in status of the general practitioner within our communities is one of the most serious problems to be encountered. A special attitude, a special mission, seems to be required for a physician to find satisfaction in rural practice. Rural practice is hard to leave for short periods of time, but the rural physician finds all kinds of ingenious ways of leaving it—hunting, where there is no possibility of being found, fishing, trips to the city often undertaken under the most extraordinary conditions.

In these communities there is a conscious hedonism, a desire for pleasure, for entertainment, a kind of frantic social whirl—something worthy of F. Scott Fitzgerald. It is an extraordinary experience to observe the intense social activity between one full day's work and the next.

The regional hospitals which have been set up, generally on a rather large scale, have helped to bring the physician into the rural area. Although Newfoundland, for example, has set up small fifteen- to twenty-five-bed hospitals, called "cottage hospitals" for a particular reason to be discussed later, most are larger hospitals, to which specialists can be attracted. There is encouragement to make the specialist mobile, for him to travel from community to community, from small hospital to small hospital. He may make weekly or monthly visits and provide advice and some services in addition.

But the pull of the city will remain potent until the sheer numbers in the city force the physicians toward the rural areas. This is unlikely to happen in the foreseeable future because the output of physicians from Canadian medical schools is not keeping up with the increase in population. If Canada at

the present time were not a net importer of physicians, it would not be possible to maintain a physician to population ratio of about one to 878, the fifth highest in the world.

In the remote areas we have special health problems. There are two particular areas that I should like to discuss, Newfoundland and the Northwest Territories.

Newfoundland is an island, removed from the mainland of Canada not merely by a body of water which has to be crossed but by climatic conditions which make flying quite unreliable and which even make radio-telephone communication unpredictable. Newfoundland not only has a system of cottage hospitals, but also a group of physicians (including all pediatricians) who are employed by the government in order to serve the population on a combined salary and fee-for-service basis. The provincial government has induced doctors to practice in rural as well as the urban areas of Newfoundland. The Trans-Canada Highway and the railway are, for practical purposes, the only direct lines of communications. Many outports, the fishing villages, can be reached only by boat. The physician who goes to these localities has to remain until relieved or until he relinquishes his practice and insists on leaving. Therefore inducements have to be offered, and these have been largely in the form of financial aid for medical training.

There is no medical school in Newfoundland; the nearest medical school—the only one in the four Atlantic Provinces—is Dalhousie University at Halifax. Dalhousie University feels responsibility to all four of the Atlantic Provinces, even though the support that it receives from the different provinces is not always proportionate. The Newfoundland student going to Dalhousie frequently has his tuition paid in return for three years of service in the outports when he returns.

The Northwest Territories are an entirely different problem. The area lies north of the sixtieth parallel, and it is divided administratively into different districts. It can be divided geo-

graphically into two areas which are of considerable significance, the line of division running vertically south until it reaches Churchill, Manitoba, on the western shores of Hudson Bay. To the west is the tree zone and to the east is the treeless zone. In each you have a different kind of animal and vegetable life, and a different kind of human life.

The western part of the Northwest Territory, basically the valley of the Mackenzie River, is relatively speaking rich and trees grow. The rest is barren tundra, with a few scrub bushes, and has various endemic animals on which the natives depend for their food. Some 42 per cent of Canada's land mass is above the sixtieth parallel, but less than 1 per cent of the population resides there. Those who live there have many health problems, particularly the less accessible people in the treeless zone. These are very few communities of significant size, the only ones being Yellow Knife, the largest, with a population of 3,200, on the northern side of Great Slave Lake; Hay River, population 1,300; up in the Mackenzie Delta, the new town of Aklavik, population 1,200; and at Frobisher Bay another town of 1,300.

Yellow Knife and Frobisher Bay both have general hospitals, the only hospitals in the Northwest Territories. The population of this relatively eastern area is largely Eskimo, and the central government maintains a Department of Northern Affairs with a health section attached. Expeditions by plane are frequently sent into the area to deal with health problems and to transport those who are seriously ill to hospitals. This is facilitated by a radio-telephone system, by the outposts of the Hudson Bay Company, and by the Royal Canadian Mounted Police. Communications are remarkably good, and the record in providing help of Royal Canadian Mounted Police, the Hudson Bay factors, and others including schoolteachers and nurses is remarkably good considering the difficulties involved.

What are some of the outstanding health problems? One out of five of all Eskimo babies dies in infancy. This staggering loss is recognized and accepted by the Eskimos to the extent that an Eskimo baby is not named at birth. The parents wait a considerable time before a name is given to be sure that the baby is going to survive. In the whole of Canada, the infant mortality rate is 27 per 1,000 live births. In the Yukon Territory it is 59 per 1,000 for all residents and 171 per 1,000 for the Indians. In the eastern areas it is 134 per 1,000 for the Eskimo. The infant mortality rate, expressed as a proportion of all deaths, is 9.4 per cent in Canada as a whole. The percentage is as high as 50 per cent of all deaths in the Eskimo population.

Generally babies are nursed until two years old because other forms of feeding are difficult to provide. As a result there is a good deal of nutritional anemia and malnutrition, not improved by the establishment of settlements to bring the Eskimos into greater communication with civilization. Education to give something other than milk has still not been achieved, and, therefore, though it may be bottled milk in a settlement or breast milk in the igloos, the diet continues to be milk for the first two years; consequently malnutrition remains extensive.

The establishment of these communities has created other quite serious problems because with civilization has come its vices: alcoholism, suicide, murder, and venereal disease. The venereal disease rate in the Northwest Territories is ten times that of the remainder of Canada. Among the communicable diseases, rabies is common. The worst thing that can happen is to be bitten by an Eskimo dog, because the incidence of rabies in animals is very high. Tuberculosis used to be a problem, but an intensive campaign involving transportation of the patient to communities where treatment is possible has brought down the mortality to a loss of only six Eskimos from tuberculosis in 1960.

In order to disseminate health education among the Eskimos, it has been necessary to invent a written language, since none existed before. New Eskimo families can be provided with a kit of eight basic medications and a manual of simple instructions in their use. There is no other way to do it; health personnel and facilities are too scarce. A few scattered nursing stations exist in the frozen North, but since each costs $75,000 to establish and $35,000 a year to maintain, they are not likely to increase.

In summary, Canada has health problems, and the one objective which seems immediate and the key to all other objectives is the problem of manpower. In order to resolve this more medical schools are needed. Unfortunately a medical school takes ten to twelve years from its conception until graduates start to be produced. One new medical school is about to open; another one is proposed. This is the problem that is most immediate. Until there is adequate personnel, services must be rationed. In order to do this we must have planning, and planning implies government action.

There are real issues in Canada. They are economic, administrative, and human issues, and there are special geographic problems. The medical profession is coming to grips with them with warm spirit and with cold logic. Something has to be done. If we do not do it for ourselves, it will be done for us. Like any other organized group in our society the medical profession claims the right to the collective representation of its members and to fight for what it believes.

The medical profession in Canada may be obliged to fight politicians, and even governments, as it did in Saskatchewan, but it is not fighting social progress.

5

Health Objectives in the Southeastern United States

Edward G. McGavran and Robert E. Coker, Jr.

In broad terms, we can state the health objectives in the southeastern United States very simply. They are the same as they are anywhere else; namely three: to control disease, to promote health in the individual and in the community, and to prolong useful and productive life. Let us examine briefly the nature of these objectives and consider how we may move toward them.

We have had some phenomenal successes within the past one hundred years in the control of disease, and most of the successes have taken place within the past fifty years, within the lifetime of a good many of us here today. How have these triumphs been brought about? We hear commonly stated that most of our conquests of disease have resulted from advances in medical science, in the diagnosis and treatment of individuals, in improved hospital facilities, in therapeutic and surgical techniques. Without belittling the importance of these things—and we will return later to the matter of medical care —let us look carefully at some of our specific successes in the control of disease and examine how they came about.

In the southeastern United States we have had considerable success in the control of hookworm infection. It is not abolished by any means, but it no longer constitutes the major drain on the vitality and productivity of the population which

it once did. The first attempts to control the disease took the form of mass treatment of infected individuals through public treatment clinics, and the treatment was reasonably effective in curing them. Most of them, however, promptly became reinfected; and the magnitude of the hookworm problem continued at approximately the same level. The approach through the diagnosis and treatment of the *individual* was ineffective in controlling the infection in the *population*. It was, of course, as we know, only when the problem was attacked at the community level, with the control of the environment, that hookworm disease was controlled.

Another example of a major triumph in control of disease in this part of the world is the case of malaria, in which the control depended entirely upon a community and environmental approach. Typhoid fever provides a striking illustration of a situation in which the illness was reduced to insignificant proportions in the population before there was available any kind of specific treatment. When chloramphenicol came along as the first effective therapeutic agent for typhoid fever, it was hardly needed for that particular purpose because of the rarity of the disease in this country. And so it is with other diseases which have been effectively controlled in this country—smallpox, diphtheria, and others have been controlled by a community approach to immunization programs.

A negative example which might be cited is the case of syphilis. With the advent of penicillin as a cheap, simple, and extremely effective treatment for the disease, it was generally thought that soon syphilis would cease to be a problem, that with good diagnostic tools and an effective treatment the infection could be eliminated. As is well known now, however, the incidence of infectious syphilis in the United States has been increasing steadily for the past ten years. There are those who would say that it has been increasing, with one dip in reported incidence, for the past sixty years. The approach

then through the diagnosis and treatment of the individual has not been effective.

Tuberculosis, which occurred in true epidemic form during the nineteenth century in England and Europe but which has declined spectacularly since that time, is often cited as a victory brought about by the diagnosis, treatment, and isolation of individual patients. The fact is, however, that the incidence of tuberculosis had already begun to decline in Europe and the United States before control measures were instituted on any significant scale and in many instances has declined at very nearly the same rate in areas without control programs as in those with them. There is evidence to support the position that with improvement in economic conditions, nutrition, and standards of living in general, the incidence of tuberculosis might have declined almost as rapidly without the great expenditure of time, effort, and money which have gone into tuberculosis-control programs directed primarily toward finding, diagnosing, and treating individual cases.

Now lest we be misunderstood, let us make clear that we do not decry or minimize the value, usefulness, indeed, the necessity for the highest standard of medical care for individuals including case-finding, treatment, and rehabilitation. What we are trying to emphasize is the difference between the clinical approach to the individual and the public health approach to the community. Perhaps I can illustrate this difference by recounting a conversation I had with a sociologist colleague who was the father of a small son. He came into my office one day and he said to me: "As a public health man you will be pleased to know that Johnny has now completed his immunization schedule." He was completely shocked, and I intended that he should be so, when I replied that as a public health man I could hardly care less whether Johnny had completed his immunization schedule. But I think the subsequent conversation may have enlightened him. If I had been Johnny's physician, it would have been a matter of the utmost impor-

tance to me, not only that Johnny Jones should have completed his immunization schedule at the proper time, but that Billy Smith, Dickie Roe, and every single one of my patients had completed his immunization schedule on time, too. As a clinician I would be satisfied with nothing less than immunizing 100 per cent of my patients.

On the other hand, as a public health man, while I considered it desirable that 100 per cent of the population within my jurisdiction should be immunized, I was willing to settle for considerably less than that. I knew that if a certain percentage were immunized, the community was relatively safe from an outbreak of the specific diseases involved. And it was of vital importance to me that that level of immunization be reached and maintained in the community. It was not important to me, however, to know the names of the individuals involved except as a means of determining the community immunization level. Furthermore, I knew that the time, effort, and money required to get the last 10 per cent immunized would probably be more than that required to get the first 90 per cent, and that from the public health point of view it would not be worth it. Thus, as a public health administrator, it was not of tremendous importance to me whether Professor Jones's son was immunized or not. As a physician and as a friend of Professor Jones's, however, I was of course pleased that Johnny had had his shots.

The point, I hope, is clear. The community approach to health problems is, and must of necessity be, different from the clinical approach to the individual patient. It requires a different outlook. And as we have indicated, it is the community approach which has been most effective in controlling major health problems in the past; and there is no evidence to suggest that the future will be any different, although very clearly the present state of our knowledge concerning many of our current major problems is such that a rational community approach toward their solution is not yet feasible.

With these general observations we may now turn specifically to the southeastern United States, and—with our objectives of controlling disease, promoting health, and prolonging life in mind—take a look at some of the health problems and health needs of the area and consider some areas of responsibility in defining these problems and in meeting these needs.

The health problems of the southeastern United States are little different in kind from those of other parts of the United States or other similar parts of the world. They do, however, differ in magnitude. Without going extensively into the statistical evidence, some of which is well known to most of you, we may cite a few figures to illustrate some of the problems and perhaps draw some inferences from them. Looking first at some selected death rates we find that in the East South Central States, which comprise the states of Kentucky, Tennessee, Alabama, and Mississippi, the death rate for tuberculosis, for example, is nearly half again as great as that for the United States as a whole. For syphilis it is nearly 25 per cent higher. The average maternal mortality rate per 10,000 live births in the United States for the years 1958 and 1959 was 3.8. For the South Atlantic States it was 5.1, one-third greater, and for the East South Central States it was 6.2, or two-thirds greater. In the rural areas of the non-metropolitan counties of the East South Central States the average maternal mortality rate was 8.0 per 10,000 live births, or more than twice the average for the United States as a whole. The death rate in the Southern states from certain diseases of early infancy was 16 per cent higher than that for the entire United States.

Another interesting comparison is in the death rates included under the general category of "Symptoms: senility and ill-defined conditions." For the United States as a whole the rate is 10.8 per 100,000 population; for the East South Central States it is nearly four times as high, or 40.5 per 100,000. The significance of this difference, of course, relates to the quality of medical care. Where medical care is poor, many

die unattended and the autopsy rate is low; deaths from ill-defined causes are higher.

Infant and neonatal mortality rates also are higher in the Southern states than for the remainder of the United States. I will not belabor you with the particular figures involved here. They are significantly higher than those for the United States as a whole, of the order of one-quarter higher to twice as high.

Another index which in a measure reflects the quality of medical care is the percentage of births which are attended by a physician in a hospital. For the nation as a whole this figure in 96.4 per cent. For the East South Central States the over-all figure is 85.8 per cent. And among the non-white population in the South Central States, only 60.5 per cent of births occur in hospitals. In one state more than half the non-white births take place outside the hospitals and about 45 per cent of them are not attended by a physician.

The figures which have been cited do not, of course, in any sense give a clear picture of what the health problems of the Southeastern United States are. But they do give a clear indication that there are some real problems and certainly give us some clues as to their nature.

Some other relevant factors should also be considered. The economic status of the population is lower in the South than it is in the United States as a whole. In the Southern states as in the rest of the United States, chronic diseases and accidents continue to be increasing problems. As in the rest of the country there is a continuing shift of the population from rural to urban areas and there is increasing urbanization. It has been predicted, for example, that in less than twenty years there will be a continuous urban strip extending from the Raleigh-Durham area a distance of some five hundred miles to Atlanta, Georgia, a strip somewhat resembling the present one stretching down the eastern seaboard from the Boston area very nearly to Richmond.

In terms of health personnel the southeastern states are in a less favored position than the rest of the country. For 1957 the number of non-federal physicians per 100,000 civilian population for the United States as a whole was 124.7. For the ten Southern states the average figure was 93, and the range was from 73.3 in Mississippi to 119.5 in Florida. In order to raise the ratio in these states to the 1957 United States average by 1975, over 50,000 physicians would be needed. At present there are about 30,000 physicians in the area, requiring an increase of two-thirds, a circumstance most unlikely to come about under the best of conditions. Other health personnel show similar pictures. For the United States the number of dentists per 100,000 population was 53.4; for the Southern states, about 33. The United States figure for registered nurses is 249 per 100,000 and for the South it is 149.

The facts which have been cited and other evidence which time does not permit us to elaborate upon lead us to the conclusion that the major health problems in the Southern states at the present time are problems relating to depressed socioeconomic conditions, to a need for improved environmental sanitation, and to a need for improved quality and better distribution of community health services and medical care for the population. Emerging problems result from the increase in chronic illness and increasing urbanization. These problems point to various needs which will have to be met if we are to make any progress towards the objectives of controlling disease, promoting health, and prolonging life. These needs can be subsumed in three categories: (1) personnel, (2) facilities, and (3) organizational frameworks.

We have already made reference to personnel shortages in the fields of medicine, dentistry, and nursing. There are shortages in all other health-related disciplines and conspicuous shortages of trained public health personnel, including public health nurses, public health engineers, sanitarians, and especially public health physicians. In connection with physi-

cians we pointed out the unlikelihood that we could alleviate the shortage in any reasonable length of time. This is also true of nurses and other categories of personnel required for patient care. In such a situation it becomes even more important to have adequate numbers of public health personnel.

In terms of facilities, figures could be cited to indicate that the southeastern states lag behind most of the rest of the United States in all sorts of health facilities, including acceptable general hospital beds, long-term care facilities, public health centers, rehabilitation facilities, and other community health facilities. The South is not nearly as far behind as it was fifteen years ago—at the beginning of the Hill-Burton program—and, indeed, has been increasing its facilities at a more rapid pace than any other part of the country. But it still has a long way to go to meet the need.

The needs for personnel and facilities are well documented and generally fairly well understood. The concept of an organizational framework within which health services are planned and implemented is perhaps less well recognized or accepted by the public and perhaps by some in the health professions, although well known by this audience. But the nature of the organizational pattern for delivering health services to the people is one of the most important determinants of the quality, quantity, and distribution of such services.

The pattern of organization is always important. It is most important, however, at the two ends of the scale—on the one hand where personnel and facilities are limited and health problems are acute, and on the other hand where there is a multiplicity of services, facilities, and resources with high degrees of specialization. In the former situation it becomes of the highest order of importance to utilize in the most efficient and effective way the resources that are available. In the latter situation co-ordination and communication among various agencies, organizations, and individual practitioners concerned

with the health problems of groups, families, or individuals becomes a major problem.

Although we have been referring to the southeastern states as a region, it must be recognized that this region includes areas which come close to the two extremes that I have just mentioned. We have areas in the Appalachian Mountains and elsewhere where the population is sparse and resources are extremely limited. We have rural areas in the deep South where the population, largely Negro, is economically depressed and health resources poorly distributed. We have areas like the Durham-Chapel Hill region with two major medical centers within ten miles of each other with a relatively light population density. And we also have major metropolitan areas such as Atlanta, Miami, and Birmingham, with all the resources such communities have to offer.

This very diversity demands effective organizational patterns if any reasonable health goals are to be attained. And effective organizational patterns for the provision of health services are rare indeed in the United States, including its southeastern portion. Dr. James A. Crabtree, of the Graduate School of Public Health at Pittsburgh, has stated the case most vividly:

> I know of no other area of public concern where societal action is organized in so chaotically a fragmented fashion as human health. Confusing and cumbersome as the situation may appear at the national level, the situation locally and in our several states almost defies description. The government of my home state currently is organized in such a way that we have no less than six official state health authorities—one of whom is the state Secretary of Health—all of coordinate rank and power over their specified health jurisdictions. By these I mean state officials at the top level of executive authority carrying independent responsibility for meeting the official obligations of the state toward one or more specified substantial aspects of human health. Add to these six official state authorities, and the substantial organizations they direct, 50 private agencies—also substantial consumers of man-

power whose activities on a statewide basis have sufficiently direct relevance for human health that they hold membership in the State Health Council. Move down a bit to the 65 counties and the hundreds of municipalities, townships, boroughs and school districts and try simply to count, let alone understand, the admixture of satellites of not only these state agencies but of an equal number of nationals, and then throw in a still larger number of 'independents,' i.e., those without state or national affiliation, all working diligently, for the most part conscientiously, and most likely quite independently on some fraction of human health. . . . Except for the numbers here cited, this describes each of our 50 states.

Dr. Crabtree admittedly states the case rather strongly to make his point, but such fragmentation and inco-ordination is the rule rather than the exception. And unfortunately the trend seems to be towards more of the same. In North Carolina, for example, our General Assembly a few months ago, with the full approval of the State Board of Health—I mean the policy making board—and the State Medical Society, with no audible dissenting voice, carried us back to the turn of the century when the mind and the body were thought to be two unrelated entities. It created a state Department of Mental Health with, in effect, authority to establish local departments of mental health paralleling our existing State Board of Health and local health departments which now presumably should be redesignated State Board of Physical Health and local departments of physical health.

I cite this as an example because it is close to home. It has happened in many other states.

Without belaboring the point further, to summarize: the pattern for the provision of health services in the southeastern states, as elsewhere, has grown up piecemeal over considerable periods of time and in large measure without any long-range planning or co-ordination among those concerned with the health of the population. The result is a patchwork which inevitably makes very inefficient use of the health personnel and resources which are already in short supply. And this region

has many more acute health problems than most of the rest of the nation. What, then, is to be our approach and where do the responsibilities lie?

The reasonable approach would be to find mechanisms for defining as specifically as possible the health problems of the area, for determining the health resources available and those needed, for planning programs to develop needed resources and programs to meet the health problems, to implement these plans, and, finally, to evaluate the effectiveness of these efforts in terms of their impact upon the health of the population. It would be hoped that such planning would be done at various levels with co-ordination among them—at the local community level, at the intrastate regional level, at the state level, and, where indicated, at the interstate level. Optimally this sort of planning would be done not necessarily with reference to political subdivisions such as counties, cities, and towns, but with reference to health service areas. The difficulties, of course, in this are enormous, but the goal is well worth striving for.

What sorts of mechanisms can be found to carry out this sort of planning? The Southern states, perhaps because of their more pressing need, were in general among the first of the several states to develop official public health departments. The quality of these departments, the training of their staffs, and the effectiveness of their programs vary tremendously. Nevertheless, they constitute an organizational framework readily available. Where they are of high quality, they can and should take the leadership in developing the sort of community planning to which we have referred. Where they are weak, they should be strengthened and stimulated to assume an effective role. It is the responsibility of medical and other health professions to see that public health agencies are strengthened to the point where they can assume such leadership and, where necessary, to put the pressure on these health agencies and goad them into doing so. It is the responsibility

of the medical and other health professions to insist that public health agencies be staffed with highly qualified personnel with professional public health education. The health professions are not alone in these responsibilities, but they have a special responsibility to recognize the needs for adequate public health organization and to interpret these needs to the public and to the political authorities.

It is our responsibility as public health people to make the health professions aware of the continuing need for public health services. Unfortunately large numbers among the health professions have taken the position that with the conquest of the old major infectious diseases, the need for public health services has decreased. As we have implied, the very contrary is true; health problems have only become more complicated, not simpler. Dealing with the problems of long-term illness requires the services of many different sorts of professional personnel and agencies and facilities which must be co-ordinated within the community. Very few who have thoughtfully watched the trend of public sentiment in the United States over the past fifteen years have any doubt that public medical care programs will continue to be made available to more and more people. Public health agencies are the proper and logical agencies to administer such programs, and it is generally a mistake to place them in other agencies. For these reasons and other reasons it is of a very high order of importance that we should bend every effort to strengthen local public health departments so that they may be ready to meet these increasing responsibilities. Where there are strong public health agencies supported by, and working with, the practitioners of the healing arts, the work of each is more effective.

I should perhaps hasten to add that we are not saying that the public health department should by itself develop over-all plans for the community and hand them down from on high to be carried out. It is important that all community groups

and agencies be involved. The health department, because of the collection of special skills which it has and because of its knowledge of the health problems and needs of the community, should be the sparkplug and is the only logical focal point for community health planning.

If the public health department is to fulfil the sort of function here envisaged, then it must have within itself the kind of leadership which will see that it assumes these responsibilities within the community. This, then, points up what I would characterize as the one most urgent specific need in the whole field of health and health services, not only in the southeastern United States but in most other parts of the world. This is the need for training public health personnel, but more specifically for trained medical public health administrators who will have the knowledge and skills necessary to make accurate diagnoses of community health problems, who will have the imagination and the vision to plan programs for their solution, who will have the energy, initiative, and administrative skills to implement these solutions, who will have a grasp of the techniques for the evaluation of success or failure in community health programs and the ability to exert leadership in all matters relating to community health.

In conclusion, we have tried to suggest that in order to meet the particular health problems of the southeastern United States we need first to diagnose them more precisely, and then seek the personnel, facilities, and more particularly, the social machinery necessary to carry out the required programs. It is envisaged that the social machinery can best and most effectively be built upon the existing framework of public health services in which the greatest specific need is for medical administrative leadership.

I would like now to offer only two closing observations. First, you will have noted that nowhere in this discussion have I used the word *research*. The reason is simply a firm conviction that now we are probably systematically neglecting more

knowledge related to the control of community health problems than we are applying. Let us by no means stop the search for new knowledge; but let us by all means devote some substantial portion of our efforts toward the application of some of the knowledge we already have and are not using.

Finally, it would be a serious omission indeed if we were to close without taking cognizance of the fact that the Southern states are presently undergoing a convulsive social revolution of the very first order of magnitude. I think there can be little doubt that in due course a result of this social upheaval will be a vast improvement in the health status of the population of the region. But before this improvement of health status is noted, there will be, not an increased *need* for health services —the need is already there—but an increased *demand* for health services. It would behoove us to begin now to prepare to meet that demand.

6

The Role of the Individual in Rural Health

Frederick J. Brady

I can imagine two types of roles of the individual in a rural community. The first is with regard to his immediate responsibilities for the health of himself and his family. In many respects this responsibility is no different from that of the urbanite but is modified by his geographical distance from health facilities, by his dependence on his own water supply and waste disposal systems, by his interrelationships with domestic and wild animals. The other role concerns his potential as an organizer of health programs for his area. My remarks on this role will be interrelated with those in the next two papers.

It would be useful if we could portray an average rural dweller. Obviously, this is impossible even for a small geographical subdivision. The vast differences between the rural dweller of Africa and the farmer of the United States make it impossible to use an example that is meaningful to both. Between these extremes are the hundreds of millions of persons, differing in cultures, educational opportunities and accomplishments, economic resources, availability of communication and transportation. Add to these differences the multitude of languages and dialects, political differences—even traditional enmities, inconvertibility of currencies—and it is impossible to find common denominators for rural individuals.

Let us imagine a middle-class rural individual in the United States as one end of the spectrum. His area is one of low population density. If he is a farmer, his family income is about three-fifths of the national average. He probably has electricity, running water, regular mail delivery, family transportation, mechanical farm equipment, school buses for his children, radio, and perhaps television. He probably reads newspapers and periodicals regularly. He attends meetings of local organizations; he goes to church; and he knows his neighbors for miles around. Periodically, his herds are tuberculin tested; his well water is checked; he signs consent slips to have his school children examined and immunized; he visits a physician when ill. He reads popular and dramatic articles of new discoveries about diseases and specialized health facilities. He knows of persons who have had jaundice and tuberculosis but neither appear to be any danger to him. Measles and whooping cough are regarded as diseases that are expected in early childhood.

In this setting, we can recognize a number of health deficiencies mostly due to his superficial knowledge of disease. He does not recognize that periodic examinations may reveal incipient disease, that immunizations of his children should be performed in preschool years, that an improperly operating septic tank may be the source of infectious hepatitis as well as a variety of enteric pathogens.

We might examine the sources of health information and misinformation that have been and are available to our hypothetical rural citizen. During the course of his life, he learned from his parents and contemporaries stray bits of medical information. Perhaps he had a course in high school on personal hygiene. During his life, he has been exposed to the ballyhoo of faith healers and charlatans. He hears news flashes on outbreaks of disease and reads medical articles in his papers. He sometimes reads stories in periodicals of research activities and the development of successful centers for treatment of

special illnesses. His children may bring home medical information gained from their classrooms. He may have received brochures from the government or insurance companies, or have purchased a book on medical self-help. He or his spouse may have had factual information through the local Agricultural Extension Service on health-related subjects. If he does not have a ready understanding of English or has grown up in a different social culture, some of these sources will be closed to him. One can readily see that our rural dweller's understanding of disease is superficial at best, and could be erroneous at worst. The sources readily available to him leave a great deal to be desired and certainly they are unlikely to motivate him into taking voluntary steps to ward off preventable disease.

The hypothetical example I have used is drawn from socio-economic levels such as we find in the United States, Canada, and northern Europe. I might say at this point, most observers in the U.S.S.R. have commented upon the emphasis that the Soviet Union places on health education. The U.S.S.R. supports a large central institute in Moscow which produces movies, posters, brochures, speech material, school lessons, and illuminated wall posters which are sent throughout the Soviet Union. Some movies are of the animated drawing type and characters resemble those of our animated cartoonists. The institute has a research unit to develop new media and evaluate the effectiveness of material in motivation. The Republics of the U.S.S.R. each have "houses of health education" through which audio-visual aids are distributed. Medical workers are required by law to devote four hours monthly to mass health education. TV stations schedule three to four health programs monthly.

If we agree that the rural individual of the developed areas of North America and Europe needs a better knowledge of health and sickness, what methods are available to improve his understanding? We hope that we have given him a level of

learning that will enable him, with a little stimulus, to recognize health problems and learn that there are improved ways of meeting these problems.

How can the rural dweller in the United States be motivated to learn and accept modern health practices? Social scientists concerned with health motivation have come to the conclusion that the individual must have three beliefs to take health measures: (1) the disease exists; (2) the disease is a personal threat; and (3) there is an effective method of diminishing this threat. Does our individual believe that diptheria can be a threat to his children, that he may acquire infectious hepatitis from his improperly operating septic tank, and that tetanus could result from a trivial wound?

It is my belief that far too few of our rural dwellers have the knowledge to take the appropriate steps for prevention of disease. Paradoxically, we have the opportunity to impart this knowledge. A study made by a department of journalism of one of our universities showed that the reader of papers and magazines preferred science news to all others and, of the sciences, preferred medical news. Medical stories excite reader interest and most of them can have glamour. But one wonders whether more of these stories could be slanted to the consumer's daily needs rather than the esoteric developments of the DNA molecule or the development of a new center in a big city for an uncommon disease.

The indirect education of parents by their school children has long been recognized. Here again is an area of opportunity for improving the school curriculum in the health sciences so that the teaching of the teenager contains those messages on health that not only will serve to make him a healthy citizen, but help to motivate his household. The usual health class in high school is a minor course taught by the physical education department.

A few years ago, the Sanitary Engineering Center in Cincinnati set up a series of special demonstrations for high

school science instructors in the area. The demonstrations consisted of relatively simple laboratory procedures related to health that could be readily performed with the equipment available in science classrooms and laboratories. The demonstration was an immense success, with the science teachers introducing these procedures in their high schools.

Why shouldn't this idea be extended into the development of a full course on human biology? With the development of a text, laboratory guide, and teacher's manual, such a course could become a major one illustrating lessons learned in other sciences such as biology, chemistry, and physics. Laboratory procedures might well include experiments on the composition of body fluids, demonstrations on metabolism, nutrition, examination of water and milk, immunity, etc. The course not only would prepare the student for better discernment in his later years, but would have the important by-product of attracting many into the health professions. Such a course should be one of the most popular because of the personal element in studying one's own body. As one educator put it:

> Is it not just as important that a student have as a part of his general education, health education, as it is to have science, mathematics, foreign languages or the fine arts? Is the reproductive life of the tadpole, insect collecting, or animal trapping, covered in the biology course any more important than understanding the phenomena of human reproduction and the other wonders of the human body?

Another method of education which might be employed is the development of co-operative programs with Agricultural Extension Agents. The programs related to health that I am familiar with usually deal only with first aid courses and nutrition. There are other ready-made organizations that exist throughout the United States, which, with assistance, could add to the knowledge of our rural individual and motivate him in accepting health practices.

I should like to summarize here the direct role of the in-

telligent individual in rural health. I have questioned whether he has ready access to the knowledge needed to motivate him to improved health practices for himself and his family. I have suggested that there are opportunities which we in health have not used to greatest advantage. These include the production and distribution of health materials relating to the problems in the rural environment, collaboration with the Agricultural Extension Service, and improved health courses for his children.

Now let us turn to the other extreme where the rural dweller lives a primitive existence. These persons, although predominantly in Asia and Africa, are found in every continent. They live in homes built with simple local materials such as thatch, goat hides, and adobe. Their primary allegiance may be to the tribe, which may be in conflict with neighboring tribes. Formal education is non-existent; learning has been limited to methods of acquiring food, defense against other tribes, and the learning of a primitive religion with its fetishes and superstitions. Transportation is nearly non-existent with neither vehicles nor roads. Communication is limited to the tribe because of a distinct tribal language or dialect. The only semblance of medical care is in the hands of the witch doctor with his sorcery and voodoo.

As I said before, it is impossible to draw meaningful answers to meet the needs of these extremes. Worldwide, vast numbers of rural dwellers lie between these cultural extremes.

Among these millions, we must admit that health developments must go hand in hand with other social and economic developments. Probably the most important is education. But there is also the need for a better economic base, which for the rural dweller means more efficient methods of producing crops and better transportation and marketing procedures. These areas are the challenges of the international agencies, WHO, FAO, UNESCO, the United Nations and its other specialized agencies, and of regional organizations such as

OAS and PAHO, AID, the Colombo Plan, and others. They require the expert assistance of the economist, the biologist and the social scientist.

I should like to digress a moment regarding the social scientists. To me they are indispensable to the success of programs in primitive societies, and yet their use has often been resisted by the economist and perhaps the biological scientist. Knowledge in the social sciences is dependent upon research performed upon the human animal with multiple variables that cannot be controlled with any degree of precision; the idiom of the social scientist is inclined to be a special jargon understood only by other social scientists. It is my belief that even with these limitations of knowledge and expression, they nevertheless can play an exceedingly important role in program design and development. I might add, too, that their lack of more precise knowledge is due to the lack of support of research in these sciences in spite of many scientists' pleas, and the generally acknowledged fact that man toys with his own destruction until he learns how to surmount the social and cultural barriers that interfere with understanding and working in harmony with his fellowmen.

The World Health Organization and the Pan American Health Organization working with governments have amply demonstrated how health advances can be brought to the most primitive areas. The ability of these organizations to attract the world's outstanding experts to guide programs and to use superior personnel of the host government for program supervision has made it possible to accomplish wonders in backward areas. The perennial question is how to shift increasing responsibility to the local citizens who do not have the educational background to continue programs. Generally, the ministries and the international organizations differentiate those programs with a foreseeable termination—such as malaria and smallpox eradication—from those that will be continued indefinitely—such as reduction of infant mortality. In the former,

the job can be done for the community without the necessity of full transfer to local leadership, while with the latter group provision must be made for finding potential leaders and supplying training and educational opportunities.

I now turn to a different aspect of our rural person and examine his potential in influencing his community health programs. An occasional individual will decide that he wants better health services and is prepared to spend time and effort in behalf of his community. I will approach this subject, which is an indirect role of the individual in rural health, from the standpoints of the qualifications necessary for a leader and the means by which such an individual can become an effective leader.

If he is to be effective, he must learn considerable health information so that he will have support of others in the community. His interest should stem from a wish to improve his community and not from personal gain. It has been said that persons join organizations for possible financial gain, personal glory, entertainment by the opposite sex, or prestige. None of these motivations suits our case; we hope that our hypothetical leader does not need these stimuli.

The next consideration is an estimate of how influential our man will be. Is he respected in the community and can he influence others to action? Does he know the value of developing a power structure which will join his cause? Has he acquired the technique of leading without appearing to lead? Is his enthusiasm infectious? Another consideration is whether his cause is prejudiced by affiliation with a clique that automatically generates opposition. Here it may be found that his known views on politics, religion, or his past crusades may have alienated him to those whose support is needed. Does our man know where to turn for professional guidance? Often the best sounding approaches and programs will be ill-conceived, unnecessarily expensive, scientifically absurd, or otherwise doomed to failure. Here is where the physician,

the nurse, and others can give guidance on their knowledge of related programs, guidance that can steer a proposal towards success.

In the foregoing, I have tried to list some of the attributes necessary for an individual who wants to improve his community's health. These are willingness to acquire knowledge, unselfish motivation, ability to influence others, and readiness to seek professional guidance. Rarely will we find all these attributes in a single individual, but those he does possess may be developed or supplemented by others.

The role of the physician is discussed by Dr. Arbona, but let me suggest that the physician's interrelationship with our leader is important—the professional health worker often can stimulate thoughts and ideas; he can alter preconceived concepts without destroying enthusiasm; he can act as a resource to our leader; he can help promote community interest; he can obtain and interpret professional material, and finally provide professional advice.

Let us turn now to the other end of the spectrum where the individual is illiterate, where the social customs of centuries provide no counterpart of today's health programs, where resources are few and transportation and communication are lacking.

Obviously, no individual, not even the tribal chief, can be found who meets more than one or two of our qualifications. In fact, in such a community an attempt to introduce any modern health procedure would fail without years of preparation or the chance occurrence that stimulates an entirely new cause of action.

In the plateau area of Nigeria the "Pagan" tribe had resisted any attempts of the British Colonial Office to assist or even fraternize for decades. This tribe had maintained itself in complete isolation from all outsiders, including neighboring people, as far back as history was known. The British could not provide any assistance for water supplies or emergency

treatment; in fact, social communication was non-existent. In the late 1930's sleeping sickness broke out. African sleeping sickness can take on characteristics of an epidemic and, in fact, someone has said that when 16 per cent of persons show infection, it will kill off a population. The sleeping sickness began in several villages, killing the majority, and those who fled the village took the infection to other villages, accelerating its spread. In desperation, the Pagans admitted a few British doctors and entomologists into their villages when their witchcraft failed. Fortunately, good drugs are available for the early stages of this disease so that its spread could be stopped. The dramatic results were the beginning of a rapprochement and the entering wedge for the previously isolated Pagans. Today in this area there are clinics for the prevention and treatment of disease, and Pagans attend faithfully.

This story could be retold of dozens of places where the use of drugs against pestilence is dramatic. The ability to control infectious diseases, particularly malaria and smallpox, in the early history of the United States was responsible for establishing many state and local health departments.

The World Health Organization and the Pan American Health Organization are agencies that have taken advantage and continue to take advantage of opportunities in primitive areas. Their international character makes it possible to recruit different nationalities; their relations to governments make local personnel available. The combination of the outside experienced technical experts and the representatives of the Ministry of Health with their local knowledge is extremely effective. I think it is probably a fair statement that the best chance for rural health improvement in most areas of the world rests with the respective Ministries of Health, given the consultation and guidance of the world's experts available through the international organizations.

A few words about the methods whereby we can take advantage of our opportunities. Certainly, there is evidence that

the intelligent man is giving more thought to, and showing more interest in, the rest of mankind. At the turn of the century there was no public conscience for those outside his immediate horizons. Nations were isolated from each other or one exploited another. Even within nations, domination of one ethnic group has been the rule. Now that colonialism is coming to an end, all major nations have extended aid abroad. Perhaps as the affluent societies of Europe and America become more introspective, they are beginning to realize that affluence and self-satisfaction are not synonymous. The great debate of the role of the scientist in political decisions is being broadened into the role of the scientist in our national destiny.

The Reverend Father Hesburgh, a member of the National Science Board, put the question: "How well are science and technology being used by man?" While science is amoral its uses can be good or bad. He questions whether the glamorous but costly explorations of space and the oceans must displace other activities.

> But, we can, if we really believe in freedom and human dignity, help create in our day a new condition of mankind, a situation in which human freedom and dignity are at least possible. Never before in history has this been possible. The vast majority of mankind has been hungry, diseased, ignorant, poor and badly housed. The great glory of science and technology in our day is that it provides the means of relieving this ancient human bondage, these cruel forms of universal human slavery.[1]

And then I quote from Dr. Dubos in his recent book, *The Torch of Life:*

> We have enormous resources and powerful means of action. The difficulty is to choose what is most worth doing among all the things that can be done and should be done. Should we increase further the comfort and ease of life; abolish more completely all forms of suffering and of effort; strive for deeper knowledge and

[1] Theodore M. Hesburgh, C.S.C., "Science is Amoral; Need Scientists be Amoral, Too?" *Saturday Review*, March 2, 1963, p. 56.

understanding of the universe or for greater esthetic appreciation; achieve more intimate communion with the cosmos; try to bring about a true brotherhood among men? All of these purposes and many others are worthy of human effort, but they cannot all be pursued with equal vigor. There have to be choices, and these will have to be based on judgments of value.

It is gratifying indeed that Father Hesburgh and Dr. Dubos and other noted intellectuals are re-examining our goals and are pricking the national conscience. Thus we may find that resources do exist to make a more concerted effort on disease, that both the rural and urban individual can attain a freedom from disease hitherto unknown.

Discussion

Dr. Penido: Dr. Brady has developed an excellent and very complete approach to this problem. In Brazil, where the community spirit is not as strong as in the United States, better and quicker results in the communities may be achieved by working through the normal channels of communications. Many leading sociologists believe that it is a mistake to attempt to generate artificially a "community spirit" and to endeavor to solve problems by this means because it takes a longer time to achieve results.

The existing lines of communication develop leadership. Frequently doctors who come into the area from the outside do not detect these local leaders but they are quickly discovered by auxiliary personnel, who utilize them to good purpose.

Dr. Coker: I was impressed with Dr. Brady's approach and coverage of the subject and the usefulness of his differentiation between the two potential roles of the individual: (1) his responsibility for his own and his family's health, and

(2) his responsibility towards the community for the development of health resources within it.

We, in this country, tend to stress the first role. We are fond of saying to our students that the first responsibility for health does rest with the individual and the family—the individual for his own health, and the family for the health of the dependent members of the family. Oftentimes when we have international students who come to us, I think they are puzzled by this stress on the role of the individual. And the reason for this was brought out by Dr. Brady's two extreme examples. In the instance of the American farmer, despite the fact that he has limited knowledge and he may make limited use of his resources, he has the potential to assume a great deal of responsibility because all of the resources of a fairly highly developed society are within his reach. In the case of the primitive, less advanced situation, this individual, for all practical purposes, is afforded no protection by society. He has available to him no resources for his own health maintenance and for that of his family. Therefore, it is not possible for him to assume a great deal of responsibility. We tend to forget this when we are teaching people who are going to work in less developed areas.

We were talking earlier about three sorts of responsibilities —we might define it as a triangle: (1) the individual, (2) the physician—although I would prefer to use the term health worker, and (3) the community. And I think that, as Dr. Brady has suggested, these relative responsibilities are going to vary tremendously with the varying stages of development of different societies. In some instances we will have an equilateral triangle. In others we will have a triangle with one very long side. Dr. Brady referred to various ways of influencing people, particularly in speaking of the rural individual in the more developed societies. He stressed the schools and mass media. I think that the approach through the schools is an excellent one. I think, however, that we must be ever

mindful of the difficulties involved in this. The school people have a great many pressures on them, and it is not always easy to get to them and to persuade them of the importance of our particular message.

He referred also to the use of existing agencies, and I should like to suggest also the possibility of forming new agencies within the community. In one community in which I worked I recall a rural slum. The health educator from our health department went into this slum and persuaded the people to organize a group focused on health. This resulted in the assumption of a great deal of responsibility by these people for their own health; not only that, it also served as a beginning for an over-all community development program. Housing was improved and the whole community underwent a development stemming from the organization of a club among the women whose first focus was on health.

I do not think the importance of the role of the social scientist can be overestimated. I think, however, it can be misunderstood, and in many instances it has been misunderstood. Oftentimes health workers have tended to think of social scientists as those who can help them to win acceptance for health programs. I do not believe this ordinarily represents an appropriate or proper role for them. There are several important ways in which the social scientist can contribute. One of these is to help to elucidate the social and cultural determinants of health and disease states. The second is to assist us to understand the factors that influence the acceptance of health programs by communities, groups, and individuals. And perhaps a third is to help us to understand the power structure and leadership roles within the community. This may be related to one of Dr. Penido's comments, that we need to be cognizant of the existing social structure in any society with which we are concerned. Working within it and utilizing the channels within it we can accomplish a great deal.

The rural slum and the Pagan tribe cited by Dr. Brady

were situations in which a health program served as the opening wedge for a whole community to develop a broad program of improvement.

I do not know whether levity is in order in connection with such solemn and important subjects but I think one of the responsibilities of the individual is to quit breeding.

7

The Role of the Physician in Rural Health

Guillermo Arbona

In the developing countries eradicating the infectious and parasitic diseases and providing adequate nutrition are the major problems. In the better developed countries the challenge is making available medical care services of satisfactory quality to residents of rural areas. Comprehensive health services have been described as including the promotion of health, the prevention of disease, the restoration of health through early diagnosis and treatment of disease, and the rehabilitation of the incapacitated. In the provision of such services, physicians or general practitioners, specialists of various sorts, and administrators all have roles. Health is no longer considered the responsibility of the physician alone.

The concept of the health team has gained widespread acceptance. Such a team is composed of the physician, the dentist, the nurse, the social worker, and members of related professions. Working together, they can insure that the maximum benefit is derived from existing health knowledge. On such a team the physician may play several roles—as a general practitioner, a specialist, and an administrator.

The responsibility for advising communities and the proper governmental bodies on the development of health services lies with the public health physician. As these bodies approve proposals and allocate needed resources, he becomes responsi-

ble for operations. The public health administrator must see that health problems in rural areas are included in the overall plans. He must assess and evaluate existing resources and plan how best to use them in mitigating or solving existing problems.

Planning and administering health programs vary in complexity with the size of the country, the problems faced, the resources available, and many other factors. The poorer the country, the more overwhelming are the problems; the more limited the resources, the more careful planning is required. In developing countries health services, both curative and preventive, are basically a governmental responsibility. In the developed countries private practitioners and voluntary agencies play a major role. The main administrative problems in developing countries is to see how best to meet the needs with available resources. In the developed countries the main administrative problem seems to be how to best co-ordinate the many private organizations, including private medicine, engaged in dealing with health problems.

Among many problems faced by health administrators is the apparent lack of interest of physicians in the problems of rural areas in both developing and developed countries. In the Magnuson Report of 1952[1] a number of recommendations were made to improve rural health services in the United States. Among these were the provision of scholarships in the health professions for rural youths of low income families. In Puerto Rico we saw this recommendation fail. Selected young men and women, many from the rural areas, were sent to medical school. Some went back to the rural areas and served for a while. As soon as they could they left government jobs, moved back into the big cities, and started in private practice. Recommendations of the Magnuson Report included the development of hospital facilities and the estab-

[1] President's Commission on Health Needs of the Nation, *Building America's Health* (5 vols.; Washington: U.S. Government Printing Office, 1952).

lishment of good working relationships between small rural hospitals and larger medical centers, the extension of public health services to all rural areas, stimulation of rural communities to study their own problems and to seek means of solving them, using their own resources to provide and equip doctors' offices and guaranteeing the doctors a minimum income. The Report recommended further federal and state grants for the construction of hospitals, the provision of medical services to help people in rural areas secure practical equality with other groups, and finally, group-practice arrangements by general physicians in rural areas.

One important point is the attitude of physicians toward the problems of people in rural areas. In this respect medical schools and medical education today are not helping as much as they could. My impression of young physicians in the United States and in Latin America is that they are afraid to practice medicine in environments too different from those of the medical center. Apparently they have been trained to depend on the abundance of laboratory and x-ray facilities of the medical centers, where they can also have consultations on the spot. Outside of that environment they seem to be at a loss. Will medical schools be able to produce physicians able to practice in rural areas with the limitations existing in those areas?

Mexico has a Polytechnic Institute with a special course in medicine to train physicians to work in rural areas. There is a separate medical school for physicians for the armed services. Do we need a special type of physician to serve in rural areas?

In Puerto Rico we are trying to deal with this problem. We are in a stage of transition, having conquered most of the communicable diseases and having begun to deal with long-term illnesses. The government has the responsibility of providing direct medical care to approximately 60 per cent of the population. We have a physician shortage. In spite of

the smallness of the island, only 100 by 36 miles where nobody lives more than ten or fifteen miles from a general hospital and where transportation facilities are good, we still consider that there is a maldistribution of physicians, with concentration of physicians in the metropolitan centers.

In trying to provide health care of good quality on less than $30.00 per person per year, in whatever his geographic location, we have adopted a number of measures. In the first place we are trying to integrate curative and preventive personal health services and provide some sort of comprehensive health care. We have been regionalizing the health services by centralization of policy making and deconcentration of operations. We have tried to involve the medical school in this whole process, hoping that it would produce better physicians for Puerto Rico. The integration of curative and preventive services is proceeding at a slow pace. There are two things that we watch for: (1) that curative medicine does not displace preventive medicine by absorbing all the resources; (2) the difficulties of changing the attitudes of personnel who have been for a long time either on the curative side or on the preventive side.

The regionalization of health services has the object, using the words of Dr. John B. Grant,

> of organizing and co-ordinating health services in a defined area for the purpose of maintaining the highest possible level of medical care and adapting a comprehensive health program to the characteristics and needs of the area. Such a program should encompass both training and service. Dr. Paul Lembcke has stated: "Acceptance of the concept carries with it the picture of an area hospital council as a system of independent hospitals so integrated as to produce the effect that the area is served by one giant hospital with branches geographically distant but functionally as closely related as if they were the wards or divisions of a large medical center."[2]

[2] John B. Grant, "Medical Regionalization and Education," *Journal of Medical Education*, XXX (1955), 73-80, quoting Paul A. Lembcke, "Suggestions Concerning Organization, Functions, and Operation of the Greater Kansas City Area Hospital Council, June 10, 1954.

The Medical School of the University of Puerto Rico has been involved. It became responsible, through agreement with the Department of Health, for administration of one of the five regions in which the seventy-six municipalities in the island have been grouped. The physicians working in the health centers are slowly beginning to feel that they are not isolated, that their routine work may be turned into a learning experience. The medical school faculty is cognizant of the problems their graduates have to face once they finish their internships and start practicing medicine. We hope this will result in changes in the medical curriculum, but more important are the hoped-for changes in attitude that the students will develop. We think we see signs of positive change but it is too early to say. It seems to me that the way the physician plays his role in rural health as a general practitioner, or as a specialist, or as a public health administrator is in many ways determined by the training he gets at the medical school.

I should like to discuss briefly a paper entitled *A Study of the Health and Medical Care Problem of the Rural Dispersed Population of Venezuela,*[3] written by Dr. José E. Boldos and a number of his colleagues in Venezuela. Venezuela is one of the countries in Latin America with a higher per capita income than average. It has had an excellent health program since 1936. In this report the authors point out that there are about 3,000,000 residents in what is considered rural Venezuela. These 3,000,000 people live in over 2,900 rural communities. Of these 2,900 there are 926 with populations between 500 and 5,000 people, and 2,000 with populations between 200 and 500 people. In 468 there are some medical services. After a thorough study of the situation Dr. Boldos and his colleagues reached the conclusion that it is impossible to provide physicians to care for the entire rural population of Venezuela; so they proposed to the Venezuela Medical

[3] José E. Boldos and others, *A Study of the Health and Medical Care Problem of the Rural Dispersed Population of Venezuela: A Report to the Venezuelan Medical Association* (mimeographed).

Federation the establishment of a simplified medical service to be provided by trained auxiliaries supervised by doctors. In the description of what they mean by "supervision" they include a "continuing education" program for these auxiliaries, in order to keep them up to date. They recognize that in all of these communities somebody is taking care of the sick, whether it is the pharmacist or the older person in the area and that you might well locate that person and give him training so he can do a better job. It seems to be a very good idea for developing countries.

Discussion

Dr. Goldbloom: The problem of educating physicians to work in rural areas takes origin even before the selection of students by the medical schools. It probably relates to the cultural patterns leading to attendance at a university. In Canada the patterns are changing and this is one of the factors influencing the choice by students of different faculties of the university.

The problem of selection of medical students reflects our lack of ability to predict with accuracy what their choice of career is likely to be. Nevertheless, it is important that we attempt this. We encounter resistance within medical schools to any outside influence concerning selection and curriculum. Our medical schools are under pressure from organized medicine, from other health organizations, from the community in general. Their resistance seems to be based on some feeling that academic freedom can be protected within an ivory tower, and indeed it can flourish there. If a company is making handles for hen's nests, it should do a little market research to find out how many hen's nests there are, how many handles there are, and how many competitors there are. A company needs to know exactly what is going to happen to the handles

that it manufactures, and whether they are going to be used effectively. This kind of market research is lacking in our planning for the utilization of physicians.

In the rural areas, and in particular in the remote areas to which I have referred in my paper, there is a problem of the personal psychology of the individual who is going there. In these areas three kinds of people, whom I could describe as missionaries, mercenaries, and misfits, tend to gravitate. There are a small number of each category. We are not doing too well in attracting mercenaries. They are entranced more by the D.E.W. Line installations, the chain of radar stations strung across Canada's north. The staff have established little colonies of metropolitan United States in the Canadian north. We have a few missionaries, but quite a number of misfits. These are escapees of one kind or another, people who are trying to leave their past behind and spend time in the wilderness, hoping that they will be forgotten. The breakdown rate is high and personal disabilities including homosexuality are a serious problem.

In order to create a program that would attract physicians into this area, in which 80 per cent of the care is under federal government auspices, it is estimated that about $6,000 per year in excess of existing civil service pay and allowances would need to be paid in order to have a positive attractive force. In addition, there is a high capital cost of establishing the doctors. There are so few that I have no figures for the cost of setting up a medical station. In the remote areas a nursing station or auxiliary health station has a capital cost of $75,000 and an annual maintenance cost of $35,000. This is a large cost in relation to the breadth of territory covered. We need, and we are in the process of organizing, some kind of a combined plan. Sixty per cent of the population in our remote areas is native, of whom 1 or 2 per cent are earning money. Only 41-42 per cent of those who are earning could conceivably employ a private physician in a way similar to

that in the rest of Canada. The Department of Northern Health Services hopes to offer payment for physicians at civil service rates and to permit the doctor to supplement his income by private practice in anticipation that this will prove an attraction.

Health workers in all fields are needed urgently and physicians to supervise their efforts are probably essential. But if the physician himself does not have a first-hand knowledge of life in these areas he will not be able to act effectively as a remote supervisor. For example, two things have been learned by nurses working in the Eskimo communities and seeing how life is lived. It was observed that in the igloo, which is built on the snow and covered with a dome of ice blocks that are kept frozen by the cold outside, there is often a fire inside. Together with the accumulation of body heat a temperature gradient is established, going from freezing at the bottom to comfortable levels at the top. The adults are at the upper level and are breathing warmer air. The infants in little makeshift cribs at the bottom level are living at levels of 32 to 40 degrees centigrade. Consequently the high infant mortality is partly due to pneumonia. As a result of our learning these facts and helping the Eskimo to realize that the baby has to be at a higher level in the igloo, the mortality has started to fall.

The other thing learned is that the Eskimos sleep in a family bed. Because the bed is a low structure and at a low temperature level, the baby is put in the middle to keep it warm. The father, particularly, has a tendency to roll around in the bed and deaths from suffocation and crushing have been a significant part of infant mortality. The Department of Northern Health Services has evolved a simple wicker device to cover the baby so it cannot be overlaid.

This type of medical expediency is so remote from education in our medical schools that an enormous gap is created. Because of the shortage of students it is hard to see how the

gap can be filled by the medical schools alone. This implies acceptance of the concept of auxiliary personnel.

This is one of the problems in Canada. The ancient text says, "Physician heal thyself"; the modern text should say, "Physician analyze thyself," because today the physician needs to achieve an insight into his own role, his own government, and other people who have complementary roles in the health field.

Dr. Stewart: It seems to me the role of physician in any setting is determined by his own objectives. What does he believe he is there to do? There are many things, some of which have been mentioned, that determine how he sees this, including his background and origins. One of the major determinants is medical education and training, including internship and residency, and also the process of the initiation rites to which we are all subjected. Another determinant is his concept of a physician and how a physician operates, what he does, and what his goals are. In the present framework of medical education, as described in the United States, Canada, Puerto Rico, and Brazil, the concept of having a physician in every rural community does not exist.

Some examples apply both to the developed nation and the developing nation. In a small rural area about forty miles from New Orleans there have been a series of young physicians. They left principally because the people received most of their medical care in New Orleans. This left the physician handling emergencies, seeing patients mainly during off hours and on week-ends. Together with the social disadvantages it turned out to be a very unsatisfactory life for them. At present this community has no physician.

It is hard to conceive of a physician in each one of the hundred thousand communities with four hundred or more people in Mexico, or in the twenty-nine hundred communities in Venezuela. There are two or perhaps three choices. One is to reorient our whole system of training physicians by using

either the polytechnic institute approach or the device which is being attempted in Puerto Rico. In the United States there have been trials of this latter method. Up to this point, I do not think the objectives have been met although in some instances it is too early to tell. Mississippi tried another technique, the financial incentive, which did not meet the objectives.

A third choice is to abandon the idea of installing a physician in each one of these rural areas and to adopt an approach similar to that suggested by the Venezuela Medical Federation. This Federation proposes training of individuals who can act as foci of health in the communities and who will provide services that cannot be obtained from surrounding areas. This person would require some form of supervision, a kind of educational guidance. The supervisor may not need to be a physician. The type of supervision and the type of person might be different in a developing area and in a developed area. In the developing area the public health worker could act as a source of communication with the center. In the developed area the public health worker could fill a similar role, for there are some organized procedures that are required in even the smallest community. But the task here is principally one of seeking the proper kind of resource to meet the needs of the people.

The Public Health Service surveyed Kit Carson County, Colorado, in which there were no organized public health facilities, but where a few physicians provided care for a large geographic area. They found a low infant mortality and high immunization rate. People received general hospital care for acute conditions from any of a hundred hospitals within 250 miles surrounding this area. There were two major deficiencies. One was unavailable emergency services; the other, perhaps more important, concerned chronic problems. The mongolian child, the cerebral palsied, the old person who has

had a stroke, require almost constant maintenance care and supervision which were unavailable.

Dr. Seipp: I would like to direct some comments to one aspect of the role of the physician which seems to me crucial yet one which too often escapes our attention. This is the relation of the physician who is working in the rural areas to existing political leadership. Puerto Rico is administratively divided into seventy-six municipalities and the Commonwealth Department of Health is establishing a local health center in each of these municipalities. Each of the municipalities has an elective mayor. This is actually a weak political office because many of the functions which we associate with municipalities in the States are handled on a regional or island-wide basis. However, health constitutes one of the important areas of involvement of the mayor, for the municipality contributes part of the financial support for the operation of the hospital unit of the health center.

In terms of Dr. Arbona's work-load as Secretary of Health, this presents perhaps as frustrating and difficult a set of problems as any with which he must deal. Inevitably differences develop between the mayors and the medical directors of the local health centers. Visitors to Puerto Rico often criticize the extent to which they feel an undue political interference is occurring in the operation of these local facilities. However, the more I have considered this problem, the more I think that there is an essential kind of linkage here which has escaped the attention which it warrants.

The local physician functioning as the director of a health center in the rural area has a responsibility to ascertain "needs." These are presumably based upon technical and professional judgment. However, there is also the effective demand which is exercised by the community which he is serving. It is the reconciliation and interaction between "need" as identified by the health professionals on the one hand and the de-

mands that are expressed by the community on the other that must guide the physician working in the rural area. The community awareness and understanding which tend to be reflected by the political leadership exercise an essential role in insuring that the health professional is not operating in an excessively technical or professional capacity. Respect of this relationship between the identification of needs and the effective demand exercised by the local community is a guarantee of statesmanship.

In terms of this, I was struck by a technique which the director of one of the regions of the Department of Health in Puerto Rico undertook to insure that the physicians in charge of the local health centers in his region would understand the political aspects of their role. Before being assigned as director in one of these rural health centers, the physician would go into the municipality and work for a full week with the mayor of that community. In one instance the future director of a rural health center actually lived in the house of the mayor and followed him around day and night for a week. During this time the physician was able not only to gain a first-hand initial acquaintance with the community, but to understand the point of view and the problems which the mayor as the political leader of this community faced.

I think that the existence of the need for this type of orientation may reflect some gaps in the initial medical training which physicians secure. However, perhaps it presents a very useful device by which those deficiencies can be compensated.

8

The Role of the Community in Rural Health

Conrad Seipp

As a point of departure in discussing the role of the community in rural health, I should like to consider the purposes underlying the provision of health care services. Increasingly today attempts are being made to differentiate between health as an end in itself and health as a means for the attainment of other general objectives.

The public health movement of the nineteenth century developed on the basis of a conviction in the existence of an identity between health and wealth. The leadership of this movement argued with what in retrospect must be characterized as amazing success and not infrequently with the calculus of compelling economic logic that community-based expenditures devoted to the maintenance and improvement of the health of the people are wealth-creating.[1] Today this conviction, if not lost, has at least been seriously undermined. It is a reflection of the general intellectual climate of our contemporary world that health measures have come to be viewed

[1] In this context it is relevant to refer to the public statements of such figures as Rosen and Pettenkofer, who dealt extensively with the social and economic costs which disease and premature death constituted for society. In the United States following the Civil War support of the propertied class for public expenditure on health measures was largely argued on these grounds. See George Rosen, *A History of Public Health* (New York: MD Publications, 1958), and Max von Pettenkofer, "The Value of Health to a City: Two Lectures Delivered in 1873," *Bulletin of the History of Medicine*, X (Oct., 1941), 473-503, 593-613.

more as welfare-producing than as instrumental to the creation of wealth.[2] Furthermore, we have become painfully aware that in the richer, more developed countries with the control of the infectious diseases successful health measures serve to increase the burden of disability and chronic conditions.[3] Beyond a certain stage in our present capacity to control mortality, there is an acceleration principle at work, forcing up costs and increasing the share of the resources of a society which must be devoted to the care of the disabled and the sick.

However, to identify health measures only as objects of consumption is certainly as mistaken as to attempt to justify every expenditure upon health as a productive investment. Rather, the provision of health care embodies the character of ultimate consumption from the point of view of the people serviced at the same time that it can be used to promote and facilitate the achievement of the larger goals of a society.

This point is worth mentioning, it seems to me, because there is today everywhere throughout the hemisphere concern to ascertain how much of the total resources of the society should be devoted to the health sectors. We know that there are those who assign a low priority to health in comparison with what they view as the other more pressing demands of a society. Likewise, there is, particularly in the developing countries of the hemisphere, uncertainty about the relative importance of the rural communities as compared with the industrial urban centers. What warrants emphasizing is the limited analytical foundation to debate and discuss these issues. Rather, current judgments in this sphere tend to reflect subjective prejudices and predilections.

It is certainly important for the leaders of the health profession to enter this debate and render considered judgment

[2] See, for example, the following very thoughtful consideration of this point: "Health and Wealth," *Proceedings of the Royal Society of Medicine*, LV (Jan., 1962), 1-6.

[3] B. S. Sanders, "Measuring Community Health Levels," paper delivered at the APHA Annual Meeting, Oct. 17, 1962.

about the importance of health in general, of rural health in particular, and of the essential role of the community in improving health. However, I feel certain that this is far less important than demonstrating what can be done to improve rural health with existing resources. Throughout the Americas there is an unprecedented opportunity to undertake the kind of social experimentation which this implies. Whether the rural sector indeed possesses the developmental potential which many of us believe it does, whether the community constitutes the key to improvement of rural health conditions which we suppose, these are not questions to be answered by debate or detached assessment of the present situation, but rather by social trial in which results can be documented.

There is danger, I am suggesting, of becoming mesmerized by the importance of the action taken at the national decision-making centers of the countries of the Americas. This serves to obscure the tremendous need to promote and to capture the initiative of the community. The task of successfully involving the rural community in the improvement of its health is, it seems to me, predicated upon the basic postulate that all of the technical services provided within the health sector must be aimed at the elimination or the control of the health problems of the people.

Once it is accepted that the resources of the health field are to be mobilized to eliminate or control the problems of the people, then two issues must be resolved. The first is the identification of problems. This depends upon prevailing professional judgment, on the one hand, and upon the technical consciousness of the consumer public, on the other. Secondly, it is necessary to determine what kinds of measures are required, not to treat the symptoms of a problem, but to solve it. Most often this is found to involve appreciation of the web of ecological relationships which tie health to the rest of the life of the community.

Thus, every health worker has a primary obligation to increase the technical consciousness of the population he serves. This is no less true in the more affluent and highly industrialized parts of America than in the poorer rural areas. Unless a population in need of help knows what services are available and how and where to obtain them, unless it possesses the motivation to make effective use of those services and to follow the instructions given to it, it is not possible to achieve quality health care.

However, the people's awareness about health matters in the underdeveloped rural community assumes a further significance in terms of the magnitude and range of their health problems and the acutely limited resources available to deal with them. It is only by increasing and shaping the technical consciousness of the people that it becomes possible to enlist their active participation and involvement in measures to solve their own health problems. The greater the awareness of the community, the larger is the resulting potential of self-help. Unless the voluntary effort forthcoming from the rural community is effectively drawn upon, solution of these problems is prohibitive not only in terms of cost but also because the necessary trained competences and skills are most often simply not at hand.

It follows that the identification of problems and the determination of the most effective ways of dealing with them is not a simple technical task for the health worker. Rather, these objectives are established through a complex process of give and take, of social experimentation that depends upon community awareness and discovery. This does not mean that the health worker should blindly accept an assumed will of the community. There is ingrained in the community development mystique the basic premise that community-based action should be initiated in terms of the "felt needs" of the people. This is a supposition which warrants critical consideration, at least in the health field.

We are all aware that the popular pressures related to health tend to center upon the provision of medical care. Health is too often valued by the individual only when it has been lost. Illness and disability—these are the health concerns which are likely to motivate a traditionally organized rural community. In contrast to the public's valuation, we as professionals in the health field attach more importance to the creation of an environment which insures a greater measure of immunity against disability and disease.

This is but one point at which the value system of the professional health worker departs from that of the public. In many cases there is also a lack of correspondence about the most effective ways of dealing with particular problems. Those working in the health field have a responsibility not only to impart technical knowledge to the people they serve, but also consciously to face the task of altering those parts of the basic values of the society which they believe impinge upon the improvement of health. The presumption is that they are at an advantage in this respect by possessing a set of attitudes and points of view which are constructed on a base of scientific knowledge. However, in order to function effectively in this capacity, the health professional must understand the motivation of the people, using the prevailing values of the community as a point of departure in discharging his role as a teacher and a leader. For it is the community which has problems; it is the people who need to improve their own way of life, and it is the obligation of the health worker to guide them in recognizing the true nature of the conditions which jeopardize their health and to assist them in taking the required corrective action.

It is not my aim to minimize the importance of constructing developmental models or comprehensive blueprints for the future. If rapid social and economic growth is to be achieved in the Americas, there must be a grand design to guide the allocation of the total resources of a country or a region.

National development plans help to insure the purposiveness, the internal consistency, and the mutuality of the efforts carried on within each of the sectors of the life of a nation. It is encouraging that there is today in the Americas a recognized need for such plans to guide the marshaling of the resources of a country and to delineate for health, as for the other sectors, its major nation-building tasks.

However, this is only one of the essentials for rapid growth. Already in a number of the countries of Latin America there may be too many plans and not enough planning. The priority task today is not so much the formulation of more or better plans as their implementation at the community level. It is all too easy to forget that the national aggregates and averages which are dealt with in comprehensive plans, whether they are income and consumption measures or vital statistics, refer to people and the way they live, that the purpose of these plans is to induce change in the conditions of that life, and that such change ultimately depends upon the action taken with local communities.

It is increasingly apparent that planning undertaken at the center can have little or no lasting significance unless it is matched with the permeation of a problem-solving approach at the local level. Health plans, it follows, must be framed with the basic intent of increasing the public's ability to make the most effective use of whatever technical resources and professional services are forthcoming from the health sector to solve their own problem. It must be the task of the health sector to develop self-reliant communities and to inculcate a community consciousness capable of studying itself, of identifying its problems, and of taking an active part in solving them.

The Rural Community's Needs for Health Care

Since World War II health care has emerged as a kind of basic social right.[4] Preventive and curative services are in-

[4] For example, the social security charter adopted by the World Federa-

creasingly viewed as being as essential to living as food, clothing, and housing.[5] At the same time there is an increasing recognition that health is intimately related to socio-economic development. We have all been repeatedly exposed to characterizations of the vicious circle of poverty, ignorance, and disease.[6] The identification of disease, disability, and malnutrition as basic components in the vicious circles which maintain an equilibrium of stagnation in many of the underdeveloped countries has constituted a dramatic and useful descriptive mechanism for highlighting the importance of health.

While these models have served in a very general way to provide a rationale for expenditures upon the improvement of health as one of the necessary points of attack in promoting social and economic development, they have not provided operational guidelines for the formulation of developmental policies. It is not just the reduction in prevailing mortality and morbidity levels or the disability burden of a population which can facilitate a society to disrupt the chain of stagnation. We understand how the provision of health measures can open up and make available the use of previously unworkable natural resources. It is also obvious that by saving lives more of the resources of a society which are devoted to rearing the young and training them are conserved, and the economic effects of reducing the portion of the population suffering from disabling diseases can equally readily be appreciated. It is also recognized that illness and malnutrition may have serious consequences in terms of labor productivity, work absentee-

---

tion of Trade Unions in 1961 identifies comprehensive health care as "a fundamental social right guaranteed by law to every human being who lives by his work or is temporarily or permanently disabled or prevented from working, and to the members of his family." *Bulletin of the International Social Security Association*, XV (1962), 82.

[5] Alan Gregg, *Challenges to Contemporary Medicine* (New York: Columbia University Press, 1956), p. 4.

[6] Hans W. Singer, "Economic Progress in Underdeveloped Countries," *Social Research*, XVI (March, 1949), 1-11; Abraham Horwitz, "Relaciones entre salud y desarrollo economico," and Gustavo Molina and Guillermo Adriasola, *Principios de Administracion Sanitaria* (San Juan, Puerto Rico, 1961), pp. 59 ff.

ism among adults, as well as the general growth process and more particularly, the capacity to learn among the young.

It is nonetheless impossible to specify these relationships with any degree of precision. Not only is it tremendously difficult to assess the probable consequences of an improvement in health status of the population on the general course of development, but the extent to which improved health is likely to be the result of health measures is equally uncertain. Furthermore, there are without question even more ramified interconnections between health and development than those which have been mentioned. For example, an abrupt increase in the expectation of life at birth, such as is being experienced in so many parts of the world, is serving to alter the emotional and connotative aspects of life as an experience. The reshaping of expectations which this inevitably entails fosters a set of time preferences which are more conducive to the kind of sacrificing that development necessitates. The more successful the health measures are in shearing life of its essential uncertainty, the less compelling are other worldly forces and the more a community is likely to orient itself in terms of the future.

The reduction of mortality may contribute to development in yet another way by decreasing the scarcity value of the elderly, thereby weakening the extended family system; this accordingly serves to undermine one of the major anchors of conservatism in rural communities.

Finally, mention can be made of the effect of a rapid improvement in health conditions in creating population pressure, which is in turn likely to lead to physical mobility and migration. There is a tendency today to view the so-called population explosion with such alarm that its developmental assets, in contrast to its liabilities and socio-economic costs, are overlooked. However, the movement of people both within a country, particularly through the process of urbanization, as well as from one country to another, seems to be a correlate

of economic growth. Thus, population pressure, as one of the factors precipitating such movements, may serve to stimulate change in the adoption and adaptation of new ideas and attitudes by different communities of people.

However complex the impact of health measures, it is clear that the improvement of health constitutes one of the requisites in the development of the rural community.

The Health Sector's Dependence upon the Community

Paradoxically, one can speak more definitively about the need for the health sector to enlist the involvement and participation of the community than of the ways in which the development of the rural community depends upon the support of the various types of health measures. It is true that many of the spectacular gains which have been achieved in recent decades in the health status of the population of the Americas do not appear to be firmly founded upon a community basis. In this respect the health sector may be the victim of the truly amazing technical success which it today commands. In no other area of the life of a traditional rural community is it possible to affect the same initial gains as cheaply, as easily, and with as little social pain as in the health field. However, after a certain measure of disease control has been effected, health work becomes acutely susceptible to diminishing returns.

There is no question that the role of the community tends to be a negligible one in a vertically organized eradication program. In some instances major attempts have been made to enlist the participation of local communities in efforts to eradicate malaria. Most such programs, however, have not depended upon the rural community or its organizational interconnections. Furthermore, everywhere in the Americas there continue to be health problems which can be dealt with simply through the provision of external technical measures, but the

increasingly successful application of those measures reduces this potential over time, with the result that activity in terms of health increasingly becomes a part of the general social service.

The control of parasitic diseases, the lowering of infant and child mortality after certain basic measures have been applied, the reduction in the prevalence of tuberculosis, these are problems which will not yield to any narrowly conceived set of technical prescriptions. Rather, the health-care team working in a rural community is forced to become involved in changing ways of living. The health problems which that team deals with yield only to changes in the objective circumstances of the life of the people. That is why, other things being equal, effort devoted to strengthening a local comprehensive health service represents a more rewarding type of endeavor than the operation of categorical programs, for it is in the former that the interactions and interconnections of health with the rest of the life of a community assume their greatest significance.

As a rural community becomes more technically conscious and positively motivated in terms of health and disease, the provision of professional services becomes less an end in itself. Rather, there emerges an increasing appreciation of the instrumental character of the health measures that can be undertaken in facilitating the achievement of other goals. It is then the rural community which exercises the dominant role.

This awareness may be manifest in certain specific measures which the community can take. Thus, labor can be contributed for the construction of a health center or the provision of protected water supply. The community which is effectively involved can assist in case-finding activities, in the reporting of vital statistics, in rendering first aid, or in numerous other types of voluntary service. However, the consciousness of the community has an even greater importance than making it possible to mobilize such voluntary efforts. For this aware-

ness helps to insure that whatever technical and professional services are made available to the community by the health workers are rendered in such a way that they reinforce and augment the value of other efforts undertaken in correlative fields. Thus the construction of a bridge connecting an isolated community with other areas of a country becomes an action which is infused with relevance in terms of health. No less, the treatment in a rural health center of acute anemias which are precipitated by inadequate nutrition and parasitic infestations is undertaken as part of an organized educational effort, and it is supported by correlative efforts in the fields of environmental sanitation, nutrition, and agriculture.

There must be at the regional and the community level institutionalized instruments to co-ordinate the activities of the different nation-building services. This is too important a responsibility to be left to one person or one agency of government. Rather, what is called for is collaborative effort to insure that measures undertaken in agriculture, in education, and in health serve to complement each other. Without this, it is not possible to harness the energy and creative capabilities of the local people. The character and form of institutionalization of such endeavor will inevitably vary from place to place. However, it must everywhere be predicated upon the presumption of local initiative in which the essential freedom of action exists to work together as need requires. What can be done depends upon the imagination, the creative capacity, and the statesmanship of the leaders in the health field and their ability to infuse a meaningful direction to the life of the local communities in which they work.

Workers in the health sector are at an advantage in this kind of task. First, there is a universality to the value of health which seems to be unique. Certainly few other values are as widely held and accordingly as susceptible to serving as a base for community involvement. Secondly, the physician tends to occupy a special position in the rural community.

Because he is the purveyor of a service which is made available to a population without distinction or favor, he hopefully exercises the same relationship to all members of a community.[7] Thus his potential influence as a leader is unrivaled. The physician is the beneficiary of more formal education than the school teacher, the agricultural extension worker, or any other individual likely to be found working in a rural community. The prestige which he accordingly tends to command can be of major significance.

However, another feature of the physician as a community worker is distinctive. Other categories of trained persons serving the rural population must go out to seek their clients. In contrast, the people come to the physician for help. He renders a service which they seek. Thus he is not obliged to motivate a population to the desire to secure the service which he is trained to discharge.

Finally, health care, even as rendered within the most limited type of local health service, is already aggregated in terms of the interaction and interdependence of the various categories of workers who constitute the health-care team. Experience derived from the resulting collaborative relationships facilitates a recognition of the larger interdependence of health with the other sectors of life of a community and of the ways of developing organized institutional linkages which make it possible to deal with them.

Obstacles in Securing the Involvement of the Community

While it is today generally agreed that the rural populations should make a greater contribution to the solution of their own health problems, the task of bringing to life and mobilizing this latent potential of the people is too frequently viewed as at best doubtful under existing circumstances. Two main grounds for such misgivings are typically encountered. First,

[7] Richard M. Titmuss, "Ethics and Economics of Medical Care," *Medical Care*, I (1963), 17.

it is argued that as long as existing effort is underfinanced, little more can be done. Secondly, there is resignation about the possibility of developing new approaches to community work because the required technical and professional personnel are in short supply.

Neither of these concerns seems to me decisive. Nowhere in the hemisphere are available funds used so wisely and with such efficiency that the rural communities could not be involved more fully. Such additional funds as may be necessary must be used not to provide a greater volume of service but to multiply the socially valued returns on existing expenditures, however inadequate they may be. It is equally fallacious to think that the training of more professionals will automatically lead to an improvement in the health of the rural population. It has been amply demonstrated that the existing schools of the health profession are not producing graduates who are both motivated and qualified for the responsibilities which they are called upon to discharge in a rural setting.[8] The type of training which is needed can be offered only through community field-practice areas which are under the supervision and control of the training institutions.[9]

Rather, I would identify three major obstacles to increasing the involvement of the community. The first is the inadequacy of the training which the health professionals receive about the community dimension of their work. Priority should be given to orienting health workers and inculcating in them the necessary attitudes and understanding that will enable them to function more successfully in the community setting. What is required is a far more sophisticated appreciation of the rural complex. Social scientists who have associated them-

[8] For example, Guatemala has a total population of about 3,750,000 persons and 675 physicians to serve this public. However, about 530 work in the capital, where one-tenth of the population is concentrated, while only 145 are available in the rest of the country, where the remaining nine-tenths of the people are located. *Public Health Reports*, No. 78 (1963), p. 150.

[9] Conrad Seipp (ed.), *Health Care for the Community* (Baltimore: Johns Hopkins Press, 1963).

selves with the community development movement have by and large implanted a conception of the town or village as the basic community unit. Too often they have assumed that the modes of group action which are operative within the social system of the middle class apply to society as a whole. Unfortunately, the stereotypes of these views have connotations which seem particularly inappropriate in most of Latin America.

The rural complex suggests a certain chain of characteristics in terms of living patterns which vary greatly throughout the hemisphere. What must be understood is the geometry and the ecology of such living patterns, rather than the classification of people into apparently neat but non-operational statistical categories. There are few areas of Latin America in which the rural village as such is likely to constitute the most significant constellation for community involvement. Rather, other points of identity in terms of work, kinship, social interaction, and ideological similarities must be marshaled as points of entry. Thus, there are communities in the Americas which are essentially rural, but in which the people live in urban physical settings, while conversely the persons possessing many of the social characteristics of the urban population are found to reside in what seems visually typical of the countryside.

There is no easy way to impart a community awareness to the various members of the health-care team. One of the social costs of their intensive and specialized training is that they become alienated and intellectually estranged from the mass society of their country. Coupled with this is the high degree of social stratification which prevails throughout Latin America. However, the health professional, if he is to function in a true community capacity, must be able to bridge the gulf between the often highly sophisticated urban environment in which he is likely to have his roots and the life of a socially isolated rural community.

No less important than the development of a community awareness is the creation of an organizational framework for the distribution and delivery of health services capable of harnessing the self-help potential of the community. Regionalization constitutes the obvious vehicle for achieving the release of this potential. From the point of view of the community, the crucial element of regional co-ordination is the development of two-way flows between the peripheral units of an organized system of health-care facilities and referral hospital centers. However, the regional scheme of organization has too often been viewed primarily as centering upon the deployment of facilities and personnel in terms of fixed echelons or levels of command. Experience to date points to the creation of interpersonal relations between various categories of health workers as well as between the health workers and their client population as the decisive element, together with the delineation of the appropriate type, quality, and amount of health-care service to provide a reasonable level of comprehensive care at the peripheral level.[10]

Most often local health services in the Americas function without the continuing support from, and interaction with, larger centers. From the point of view of the latter, the peripheral facilities and personnel constitute no more than screening outposts. Only when the provision of service to the community becomes the focal point of health-care organization can local resources be tapped. This means that the health personnel functioning at that level must not only be charged with responsibility but also empowered with authority to deal with local problems in terms of their distinctive command. Such a regional scheme for a co-ordinated approach to health care can be achieved only through administrative decentralization. However, this leads to what I would identify as the third major obstacle, the existing institutional and ad-

[10] *Ibid.*

ministrative framework of public endeavor throughout Latin America.

It is probably as foolhardy as it is mistaken to attempt generalizations about an area of the world as diverse as Latin America. However, it is clear that throughout most of this continent there persists a personalistic and juridical tradition of state action with a corresponding absence of the institutional supports and managerial capacities which are so often taken for granted elsewhere. Not only are governmental processes highly centralized, but they function in a milieu which is essentially legalistic. There is a resulting inability to deal with the community as an organized component of the social, political, and economic life of the nation in a way which respects its distinctive attributes and reflects its particular requirements.

This may well be the most crucial obstacle in the development of community life throughout the Americas. In most of the countries there is probably a higher degree of local and regional separateness and cultural autonomy than in any other area of the world. The social and economic cleavages which divide the population, the educational abyss which keeps people apart, the physical distances which enforce their isolation, and the ethnic dissimilarities which serve to accentuate other points of differences, all these co-exist in the face of a rigid and seemingly unyielding centralization of administrative operations.[11]

In this setting every problem seems to become an administrative problem, at least from the point of view of those with the responsibility of the center. At the same time the solution of true administrative problems is made increasingly difficult. Such a system does not tolerate the organizational and

[11] Egbert de Vries and José Medina Echavarria, *Social Aspects of Economic Development in Latin America*, I (UNESCO, 1963), 346 f; Frank Tannenbaum, "Toward an Appreciation of Latin America," in *The United States in Latin America* (New York: Columbia University Press, 1959).

operational flexibility necessary to respond to and promote local initiative and growth. The will of the community is sapped and its efforts are restrained in order to insure that it will remain servile and dependent. Their pervasive bureaucratization of all public functions and their administrative centralization, by reducing to a common denominator the diverse community life of the Americas, necessarily impinges upon and restricts the role which the community can exercise in rural health.

The task of creating decentralized systems for the distribution and delivery of health-care services in the Americas is thus not an easy one. Local initiative cannot be harnessed merely by making appeals for a co-ordinated approach to community problems. Change can be brought about only by surmounting the resistances and inertia represented by the prevailing general administrative tradition. Local leadership will assert itself in the health field and the latent resources which are inherent in the community as an organized social group will be effectively released only by challenging this tradition. By developing and experimenting with new organizational forms, additional sources of financing will be discovered and the untapped energies, aptitudes, and aspirations of the people will be effectively put to work.

The three areas of concern which I have identified as the basic obstacles in enlarging the role of the community in rural health are intimately related. Measures undertaken to increase the community commitment and understanding of professionals devoting themselves to health work, efforts to create co-ordinated systems of health care which center upon the organization of a local comprehensive service, and steps taken to alter the general administrative milieu in the countries of the Americas serve to reinforce and interact upon each other. They have as their common mooring a concern with solving problems and a conviction that all problems in the

human sphere are ultimately the problems of people—of how they think, feel, and act.

The Organization of a Community Awareness

I have come full circle in these remarks. I have urged that leaders in rural health must adopt a problem-solving approach in their work. The only way of eliminating or controlling the problems of the rural population of the Americas is to enlist the active support and involvement of the people in solving their own problems. The role of the trained health worker is to guide and give technical leadership, to activate and shape the resources of the community in seeking health. Nothing should be done for a community which it can do for itself. The professional service that is rendered, however diluted it may be in terms of the standards which prevail in other areas, is aimed at increasing over time the capacity of the community to deal with its own problems.

Such an approach depends upon organization. Nowhere is it sufficient merely to insure the rendering of health measures with professional and technical competence, however difficult a task this may be in the face of serious shortages of trained personnel and of grossly inadequate budgets. Rather, it is the organization of the matrix of community interconnections within which specific health services are rendered that becomes the crucial element in the successful discharge of the responsibilities which the health worker has to the people whom he serves.

To many health workers, concern with the community dimension of health activities represents a seemingly extraneous intrusion upon the discharge of their professional role. In the rural areas it is most clear that this is not the case. An awareness is forced upon each health worker of the ways in which the efficacy of the care which he provides is inextricably linked to the development of the life of the community

as a whole. The more rapid the transition and the greater the social change which the rural community undergoes, the clearer this becomes. The health worker emerges as a community organizer not by choice but by necessity, for this represents the only way in which he can insure the effective exercise of his professional competences.

Effective organization constitutes both the product and the producer of an awareness and understanding of community interrelations and interdependence, and this, in turn, gives maximum scope to the role of the community. There is collaboration between the community and the health professional in a single endeavor. Together they search for the means of strengthening and renewing the life of the society of which they are a part.

Discussion

Dr. Brady: Dr. Seipp has referred to the self-help principle, the community motivation. He has implied that there is a possibility of initiative from within the community that can give real substance to health programs and suggests that there should be a national plan and a national blueprint, and that this should be implemented at the community level. How is a national plan to be superimposed upon the community? We are looking for initiative and we hope to inculcate the feeling that the people themselves have designed their own program. How is it that this transition can take place, and how can the national government insure that the activities it believes necessary are carried out? Dr. Seipp indicated that communities vary ethnically from one to another. These factors also mitigate against national planning.

Another question concerns the relationship between the mayor and the clinic director. Mention was made of the felt

need which may not necessarily be the deficiency that health planners anticipate. The leader of the community will formulate so-called felt needs possibly on the basis of political expediency. How far do health officials amend their viewpoint to take into consideration possible conflict between two quite different objectives?

Dr. Arbona: The community in the long run discovers its problems and finds ways of solving them. We had a young doctor who had received his Master in Public Health degree from a university in the United States. He returned when we were doing a study of a number of isolated communities comprised of groups of two or three hundred families up in the hills. The progress that we are making in Puerto Rico had not yet reached them. The particular doctor carried on a study on the nutrition, parasitic infestation, and weight of children. He became dismayed because he found so many health problems and he believed he could draw attention to the problem at the meeting of the leaders of the community. He returned, quite frustrated, because at the meeting the community preferred a highway to a health program. The people wanted a road so they could cease to be isolated. Secondly, they wanted water. Health, after the young doctor had made a fine speech on parasites, was fifth or sixth on the list.

I want to stress another point Dr. Seipp mentioned because it appears to me to be basic—the matter of public administration. I mean the opinions or thinking of communities in connection with their own governments, and lack of confidence in the public administration. Action is promised during an electoral campaign and then nothing happens afterwards. In dealing with communities, rural as well as urban, I think it is very important that whatever action is promised should be promptly carried out.

9

Summary and Conclusions

John C. Cutler

In approaching the title that has been allocated to me, I do not think it is possible for me to give any conclusions other than my own, for we have not tried to come to any consensus. What we have done is to try to discuss and understand better the problems of the various areas, the rural health problems of the world, with particular reference to the Americas. We have taken a look at the social atmosphere, the environment in which people are living and in which the individual, the physician, and the community must take steps individually and collectively in order to raise the level of health. It has been rather surprising to us all to discover that despite the vast expanse of the Americas, from the Arctic to the Antarctic, there is a basic similarity in the health problems faced by the rural dwellers.

Generally, we find that they are rooted in several factors. First and foremost is the lack of environmental sanitation. It is interesting to note that what used to be considered as the specialty of tropical medicine has probably now come to be recognized generally as being based in problems of the environment. It comes as rather a shock to those living in the tropical countries, or in areas considered the hotbeds of tropical disease, to learn of the similarities in certain of their own disease patterns to those found in the coldest parts of the hemisphere. The reasons for this are essentially environmental. In both extremes of climate we find the diarrheal diseases and

the other disease derived from the filth, along with the skin infections that accompany it, as well as malnutrition.

Among the environmental determinants, first and foremost we have recognized the importance of water. We in the United States, at least in the urban areas, pay a good deal of attention to the quality of purity of water. However, carefully controlled studies have shown that one need not be too much concerned about the absolute standards of quality. The important thing is that there be enough water to permit certain basic cleanliness of environment. Certainly the risk of waterborne transmission of certain diseases is cut down if water can be purified, but the purification and treatment do cost money, and very often the basic essential is simply to have water available, reasonably acceptable in quality. And this does not necessarily mean in the house, but a supply close to the house.

In referring briefly to the elimination of waste water and excreta, we mentioned only the necessity of some type of disposal system, particularly the use of the privy. In the discussion of this point with engineers and also with the political figures responsible for working out these plans under the Alliance for Progress, there was a rather general acceptance of the fact that the first need is water. Once water is supplied to the house or community, the natural characteristics of water in seeking its own level, so to speak, and the people's desire to see to it that water is taken care of instead of pooling on the floor or in the yard, will often lead people themselves to take measures to insure that drainage and excreta disposal systems are established. This, of course, is a primary need.

Another environmental determinant is housing. Whether in the Arctic area or the rural and urban slums of North, Central, or South America, we find this problem, with the numerous obvious difficulties, and with those that are less obvious in terms of transmission of the air-borne diseases and the diseases of close body contact and filth.

Concerning malnutrition, it became obvious that this is not

only a problem of the health professions but one that has very deep and far-reaching relationships with the social, economic, and cultural patterns and traditions in each society. It often comes as a shock to see the significance of the traditional approach to nutrition and the way in which tradition will even interfere with utilization of certain foods by starving people. It was quite a revelation to me to observe the situation in India in a period when famine existed in the province in which I was working. Because of the fact that people were wheat-eating and rice-eating, even the availability of large quantities of potatoes was not sufficient to head off starvation. One could set the food in front of the people, but it was not the food they were accustomed to eating. The food was wasted and people hungered until wheat and rice were brought in at large expense by the government.

We have also discussed the importance of the pattern of economic-political decisions at the national level on nutrition. Again, it comes as rather a surprise to learn that in some areas with a high incidence of nutritional disease due to protein malnutrition, the nations concerned are exporters of beef and other proteins, or they themselves have large stocks of dried milk, for instance, which are going abroad to bring in dollars for the country rather than filling the children's stomachs. Thus malnutrition, one of the major causes of death and very closely related to the incidence of infectious disease, is a problem which is not within the capability of the health professions alone to solve. An effective approach to this problem, which is widespread throughout Middle and South America and appears occasionally and seasonally in some of the isolated areas of North America, will come about only through better governmental co-ordination, joint planning, and education of the type to which we have not been accustomed in the past.

We have also mentioned the role of accidents, and again it was a surprise to learn that accidents are a major cause of

disability and death in the underdeveloped areas, the rural areas, just as they are in the urban centers. One tends to concentrate on the automobile accidents and industrial ones, losing sight of those that occur in the rural areas—hunting and shooting accidents and others inherent in that environment. We find that there is a tremendous loss of manpower and also a drain on existing resources for health services as a result of this one factor.

We reviewed the problem of the lack of accessibility of health services to the people in rural areas, which comes about for several reasons. First, there is the question of geographic dispersion, for the rural population of many parts of the Americas is widely scattered in small groups where it is exceedingly difficult to provide the type of services which are considered almost as rights and obligations in the urban zones. Thus far it has been difficult in most countries to organize systems of service to carry care to these widely dispersed groups. There are notable exceptions to this, particularly the use of aerial services, the radio, the military, and other resources to bring medical care to the people. But these illustrations are notable for their scarcity. When one becomes cognizant of the hundred thousand villages of 400 or less population in Mexico alone, one can begin to appreciate the magnitude of the needs as compared to the resources that may exist in any country.

Not only is there geographic isolation, but cultural isolation, as has been made evident. Language itself is a barrier and in a number of the countries, as was pointed out, up to 50 per cent of the population may not speak the predominant language.

It becomes evident also that even though the professional man, the physician, thinks he ought to be able to talk in the same language to sick persons from a different social stratum, for various reasons which are not perfectly understood—and which the social scientist can explain and help overcome—the

communication from above down in this respect is very difficult. It is the intermediary, particularly the nurse or nurse-assistant, or the midwife, who has been found to provide probably the essential link in the communication. But here again, the paucity of individuals capable of providing this sort of communication and education was made clearly evident. We can thus appreciate the disproportion existing between the number of highly skilled professionals who know what ought to be done scientifically and apply certain techniques for doing it, and the number of other members of the health team at the various levels who are required to render this knowledge effective in meeting the rural population's needs. Whereas in the United States there are roughly ten other members of the health team per physician, in a country such as Brazil there are about two physicians for every nurse, taking the nurse as one indicator of the other very important members of the team.

It was pointed out also, that coupled with the problem of disease, is the rural individual's passive acceptance of many of the vicissitudes of life—death, injury, and so on—as an almost normal accompaniment of living. In fact, under some circumstances one does not even name a child until it has lived a certain number of months and shows indication that it is going to survive. This acceptance of fate has perhaps a tendency to reduce the initiative of the individual in caring for himself and his family.

The passivity of the rural area has been very important in some ways in permitting the accomplishment of certain of the eradication programs, including those against malaria and yaws. Something was done for the community and the community's receptiveness enabled the health personnel to come in to do certain work. They then moved on and left the community free of these epidemic diseases, but the community had really no sense of identity with the action required to do the job, nor any sense of determination to build on this

base of health improvement to do other things that ought to be done by the individual to maintain or improve his health.

We also discussed the rapid growth of population and the disproportion between the productive and non-productive age groups. There was a general feeling that the rapid population increase poses a serious problem in terms not only of health itself but of political stability. However, under certain circumstances, when the necessary social machinery exists, the increase of population with the survival of large numbers of children from birth may well provide incentives to the family and the community themselves to take certain steps required to bring about rapid social and economic change.

So much for the problem. It is one in which there is a common denominator throughout the Americas. The differences from place to place seem to be largely quantitative. The objectives of these societies are essentially the same, and I think that they were best summarized in the Alliance for Progress, in which twenty governments of the Americas pledged themselves to take certain action to raise the economic and social standards of the individual and the community. To permit all people to enjoy the fruits of modern technical, scientific, and social progress, the Alliance set up certain goals, among which are found those for health, primarily that of increasing life expectancy at birth by five years. To accomplish this involves a complex interrelationship which includes the individual, the physician, and the society. The development of techniques for utilizing health as one of the instruments in social and economic progress, for using the skills available to build up the quality of manpower required to do the job, is an objective of the Alliance, and that objective is now in the process of fulfilment. Movement is taking place in a number of different sectors, including health, to permit the attainment of these goals by the various governments with international assistance of one kind or another.

The health objectives were aimed at promoting better

health for the individual and the community, at prolonging useful and productive life. These are objectives with which no one can quarrel. They are common to every society, and it is the relative importance of these health goals with respect to the goals of various other sectors that is open to much discussion in establishing priorities for use of resources.

On the matter of social progress, there is one school that says: "If we can go ahead and increase production, offer more jobs, people will have more money so that they will eat and live better, and good health will . . . automatically follow." In fact, on several different occasions the relationship between economic improvement and changes in prevalence of certain diseases—tuberculosis, for instance—were pointed out, and it was suggested, as some of the economists say, that perhaps the health workers could rightfully claim no credit for certain of these changes. I think that none of us trained in health disciplines is willing to subscribe to that, but we must recognize that some fairly influential bodies of opinion, in considering priorities in society, say that the health objectives can be met by actions on the part of groups other than the health professions.

Then how to attain these objectives? Again, there is a wide diversity in the programs under way in the various countries designed to bring the benefits of modern medical and scientific knowledge to large groups of people. There may be several ways to accomplish this end. Medical care itself, and the provision of personnel and institutions to furnish it, was discussed as one of the very important means. We spoke of the problems involved and the question of whether medical care should be provided by the state or by a combination of the various segments of society. Traditionally, the more privileged individuals in Latin America, as well as in North America, have felt a strong measure of responsibility for providing services for the care of those unfortunate enough to be ill. This has resulted in growth of hospitals and the development throughout the

Americas of groups of medical practitioners of exceedingly high quality. But the problem seems to be general scarcity and inadequate distribution of the practitioners themselves and the physical resources for medical care, with concentration in metropolitan areas and lack of accessibility to rural areas. And certainly, in this connection, the traditional healer, the *curandera,* the midwife, and other auxiliaries which existed in response to community needs long before modern medicine came into being still represent a very important group of providers of services.

With respect to the manner of providing services for the prevention of disease and maintenance of health, a good deal of consideration was given to the responsibility of the individual. On this point there are two schools of thought, one of which holds that the individual has very little power, except in certain types of disease, to do very much to preserve his own health, so that the protection and care of the individual is possible only through the efforts of the state. That is one way of putting it. Perhaps another way is to state that the desired end can be accomplished through the interrelated, co-ordinated efforts of a large group of different disciplines and sectors of societies, utilizing both private and public sources of care.

In this discussion much attention was paid to the type of person who ought to give these services. Should it be the physician, the nurse, the engineer, the sanitarian, the middle-level worker, or the so-called trained or untrained auxiliary? I think that the problems in utilizing each of these workers were clearly pointed out, as were the successes achieved in certain groups by the judicious and careful use of the various health-team members and various types of skills.

As for the disparity in numbers, there was recognition of the fact that, as we approach this problem, we probably do not know very well what each of the communities wants, what each can afford, and what each accepts. The need was pointed out for some very careful diagnostic studies on the part of the

planners for national services, as well as by those responsible for developing the education system that must train the needed personnel, particularly for the rural areas.

In the field of planning, we noted the massive effort under way to develop national plans for social and economic development, in which the health sector plays an important role, as was formally recognized by the signatory governments under the Alliance for Progress. Questions were raised concerning the importance of planning, whether planning ought to take place from the top down, or from the bottom up. There was expressed a sense of disparity between the health programs that the administrative authority in a capital city think necessary and what the individuals themselves want.

However, just to give a note of optimism on this point, I think it was very evident from our discussion that while the planning that is going on must of necessity have central leadership, it does involve the workers at the various levels. Whether the planning process can include the individual and the community itself is something that cannot be stated with certainty. This will depend on the nature of society in various places, the power structure, and the organization that exists within communities and families. The important point is to plan in such a way as to utilize better the resources available within a country for the benefit of health and social and economic development.

The planning for improved health as part of development requires major changes in the attitudes, customs, and traditions of society. There was a fair amount of reaction when we discussed this point, because it was recognized by one school of thought that the solutions to the health problems of the rural communities will depend upon such basic changes. People must be brought into the twentieth century if they are going to enjoy the benefits of twentieth-century society. The question of how this is to be done is difficult to answer, and action to bring about improvement often does violence to many of

the traditional practices and concepts that are basic in a culture. Certainly, one of the factors intimately related to the low status of health in the rural areas is the existence of a type of culture and approach to life which is not conducive to the kind of individual and collective action required to permit the community to enjoy the benefits of modern technology and science.

As we discussed the role of each of the sectors—the individual, the physician, and the community—it became apparent that regardless of national boundaries and cultural differences there was a general similarity in the interdependence of each of these groups in either causing disease or permitting the existence of the conditions responsible for a high incidence or prevalence of disease. This interdependence must be recognized and acted upon if there is to be any major improvement in health conditions.

The role of the individual in terms of his own responsibility for health will certainly require re-examination by him and by those who work with him, because with the passive acceptance of disease and death and the unwillingness to join with other members of the community in taking steps to promote health, it becomes very difficult to bring about the type of organized community action required to build and maintain community systems for water and for sewage disposal, or to make most effective use of any type of health service established.

As for the role of the physician, it became evident that the physician may have to examine his own role. The type of medical teaching that now exists focuses primarily on the individual, the sick patient. Thus one of the problems is that the very education and social orientation of the student from his medical years onward is such that he finds it difficult to consider himself not only in the role of one caring for the patient but also as one who provides leadership and guidance for others whose services are needed in preventing disease and

maintaining the health of the individual, his family, and the community.

Finally, the community is very much involved, and there was recognition of the fact that all too often the community has not seen fit to take the responsibility for providing, if nothing else, the legal, institutional, and fiscal framework and resources required for maintenance of health services. The question of whether the community itself, the rural community, can meet the costs of health services, or whether these are a responsibility of the central government, is a decision that is made at the political level, country by country. And it became obvious as we discussed this point that the economic situation of the rural areas is such that resources are not usually available locally to meet the costs of providing the type of service that ideally should be available. In many places this factor has brought about reconsideration of the ways and means of providing these services and of the types of people who can provide them.

Finally, I think it became clear that we as individuals are very much dissatisfied with the status quo. We recognized that resources of knowledge are available to cope with many of the problems of the rural dweller. We recognized, too, that the type of knowledge and perhaps the labor required to utilize these resources are not equally available throughout the rural areas. This, of course, is one of the problems in the initial causation of disease and in its perpetuation. In the mounting dissatisfaction with prevailing conditions, large numbers of people are moving from the rural areas into the cities. Every one of the large Latin-American cities has what we might call a "belt of misery" around it. In the United States we can mention cities, such as Chicago and Detroit, where there are similar slums which may not be so well defined but to which workers have come from the rural South in hopes of finding jobs and better health and education for their families, but

find nothing. Throughout the Americas one sees this same flight from the rural areas.

This poses a social problem that is more or less critical, country by country, depending upon the nation's financial resources, manpower, and institutional bases for taking even minimum steps to ameliorate the conditions and give the rural dweller some hope of better education, health, and economic opportunity.

It sounds, as we review them, as though the problems we face are almost insurmountable. Half or more of Latin America's inhabitants live in rural areas, and the population increase is so rapid that the growth of the gross national product is barely keeping pace with the population growth. In spite of this, we find evidence, country by country, of techniques which have been evolved and are proving very successful in raising the level of health of the rural areas. Those techniques involve working with, and drawing upon, the resources of the individual in the community, of the community itself, of the nation, and most important, of the professional cadre that supplies health services.

Thus we have outlined the problem. We have shown very clearly that the practice of medicine or of public health is essentially a social science and discipline dealing with people, individuals, and communities, utilizing the skills of modern science but applying these skills to human beings who respond in various ways to disease and to the threat of disease, very often in ways which we in another culture or in another profession find rather hard to understand. The implications of this in terms of education, and I think in terms of our own roles, are most significant. And I can speak for the other members of the panel in congratulating Duke University and the School of Medicine for affording us this opportunity to discuss these problems, those of rural health and disease, and the relationship of the various groups in their attempts to improve the existing conditions. We believe that the type of orienta-

tion given the student should better equip him, in whatever role he plays or wherever he goes into practice, not only to deal with the individual who is sick, but also to deal with that individual in the context of his family, his community, and his own responsibility.

10

Future Prospects

Ernest L. Stebbins

The concept of comprehensive health services as a responsibility of society is relatively new, even in what usually are considered highly developed countries such as the United States, Great Britain, and those of western Europe. Until relatively recently most organized health programs were motivated by fear of epidemics. Just forty years ago the city of Olean, New York, obtained for the first time a safe water supply, only as a result of a devastating typhoid fever epidemic, and possibly influenced by the fact that the courts ruled that the city government was liable for damages for negligence in not providing a safe water supply.

Establishment of many of the state and city health departments in the United States coincided with the occurrence or the threat of yellow fever. Medical care in past centuries was provided primarily through the individuals' own efforts, or through charity hospitals for the sick poor, and it was limited in character and limited in quality. The governments have slowly, frequently grudgingly, undertaken the responsibility for the control of environmental hazards and have made that progress in the control of the infectious diseases of which we are so proud in the Western world. Much of the improvement in health conditions in the United States during the first third of this century was I believe due as much, if not more, to general prosperity and improved education than to any specific action by society through its government. It has

been cited that the control of vitamin deficiency was probably more due to refrigerated cars and trucks than to anything that society did directly for the prevention of nutritional disease. There are still many in the United States who adhere to the dictum that the government should do that and only that which the individual cannot do for himself.

In a society becoming increasingly complex it becomes more and more difficult for the individual on his own initiative to take the necessary steps to provide for himself and his family the optimum in health services. With increasing knowledge the concept of what constitutes health has been greatly broadened as indicated by the definition of health in the charter of the World Health Organization, that is, "complete physical, mental and social well being, not merely the absence of disease."

The last few decades have seen a phenomenal increase in our knowledge of the prevention and cure of disease, and understandably people desire the benefits of this new knowledge, whether in cities or in rural areas, highly developed countries, or less highly developed countries. Much has been written and said about the lag in making available the benefits of this golden era of medical research. There is increasing acceptance of the principle that there should be more of a balance between research and application in the health field. This discrepancy between knowledge and application is apparent in highly developed countries but even more apparent in the developing countries. There is increasing evidence that the peoples of the world want and even demand improved health services. In a democratic form of government political leaders and legislative bodies cannot afford to ignore this public interest and desire. Health services rate high in the priority listings of developing countries.

This was dramatically expressed in this hemisphere just two years ago when the United States and nineteen Latin-American republics pledged themselves to a new co-operative

enterprise, the Alliance for Progress. At an historic meeting in Punta del Este a charter was drafted that included in this co-operative enterprise major health goals. The charter specifies the following health goals for the next decade.

1. The increase of life expectancy by at least five years.
2. The provision of potable water supply and sewage disposal systems to not less than 70 per cent of urban and 50 per cent of rural populations.
3. The control of communicable diseases or their eradication when techniques for doing so are known.
4. The training of health personnel in sufficient numbers so that a country's minimum health needs may be met.
5. The improvement of national health services.
6. The improvement of nutrition.
7. The encouragement and support of research.
8. The lowering by half of the mortality rate of children under five.[1]

These are ambitious goals, particularly when one considers that one child in seven in Latin America dies before attaining the age of five years, representing an annual loss of life of over a million children.

Reliable estimates of the cost of providing the water systems called for under the charter of Punta del Este would require an expenditure of nearly three hundred million dollars a year during the next decade. In spite of great progress in control, malaria is still ranked as the health problem of greatest magnitude in the Western Hemisphere; smallpox is still prevalent in a number of Latin-American countries.

The attainment of the goals of the Punta del Este charter will be limited both by economic considerations and by the availability of trained health personnel. Many studies have clearly demonstrated that there is a shortage of physicians in

[1] Organization of American States, Inter-American Economic and Social Council, *Alliance for Progress*, Ser. H/XII.1 (Punta del Este, Uruguay, Aug. 5-17, 1961) (Washington: Pan American Union, 1961), p. 11.

the United States at the present time, and if modern medical knowledge is to be generally applied, heroic efforts must be made to increase the output of the medical schools of this so-called highly developed country for it is anticipated that we shall face an even greater shortage in the future. The ratio of physicians to population in Latin America indicates an even more serious problem there. Facilities are lacking in a large part of the world for the provision of adequate community health service. If the need for community health services is to be met, we must have a major planning effort that will require all of the ingenuity, skills, and wisdom that can be mobilized for this purpose.

Community health services are, and probably always will be, quite different in communities with differing social, economic, and political characteristics. Health services do not exist or develop in a vacuum. They are related to the whole range of developmental factors in the society. Important among these related developmental factors are education, communication, transportation, industrialization, and urbanization. It would seem to follow, therefore, that in the development of health services it is unwise blindly to engraft a system of health services on a relatively undeveloped society merely because it has been reasonably satisfactory in a more highly developed one. I do not mean to imply that one nation cannot benefit greatly by the experience of another; but social, cultural, and economic factors inevitably will influence the nature of the development in any given society. Because of the important interrelationships between planning for health and general planning for the developing society, it seems important that the health services be an integral part of over-all community projections.

I should like to comment briefly on the planning process. This was discussed during the seminar, but I think there is some value to repetition. I should say that realistic design for any development must be based on accurate information con-

cerning the needs for services and the resources that may be available to meet these needs. The first steps of a planning process are the collection, tabulation, and analysis of information on population and its characteristics, morbidity and mortality from specific diseases, existing health services and facilities, and a clear definition of health problems and their relative importance. In addition it is important for the planning body to have full knowledge of available resources both economic and human. Careful evaluation of needs is at the heart of planning for health services and facilities. It is the foundation for the development of realistic recommendations for improving and expanding existing programs, and for the development of new services and facilities. Matching the extent of need for health services with existing facilities and services will reveal the inadequacies in the existing programs.

In matching programs to needs, planning groups need to establish both short-range and long-range goals. Short-range goals have the advantage—hopefully—of visible progress in a reasonable length of time, whereas long-range goals have the advantage of building for the future in an orderly and co-ordinated fashion, and it is possible to detect and compensate for changing conditions and changing needs.

Examples of short-range goals might include specific disease-control programs, such as malaria eradication or smallpox control. These are goals that we believe can be attained in a reasonable length of time. Examples of long-range goals might be a program for the training of the necessary health personnel to meet the needs of the society in an evolving program of health and medical services. Particularly in the development of long-range goals the planning for health services needs to be co-ordinated with general national planning. The training of health personnel, physicians, engineers, dentists, nurses, auxiliary health workers is obviously dependent upon the general educational development in the society. As we have seen, the level of general education in many

of the developing countries is such that we cannot expect secondary education to provide the numbers of the personnel needed for the training in the professional fields to meet the needs of that society. Planning for the type and location of health services and facilities is dependent upon the frequently changing characteristics of the population in relationship to industrialization and urbanization.

In planning for the provision of health services serious consideration should be given to the type of organization and structure needed for the rendering of such services. In most societies the best leadership, both from the standpoint of financing and maintaining of high standards, will be found at the national level, but if direct services are to be rendered to the people, some form of regionalization is important. The purpose of regionalization is to make direct health services accessible to the people needing such services, but it also frequently implies the need for supervision in order to maintain quality of the service. The pattern for regionalization as developed in certain parts of the United States, particularly in Puerto Rico as described by both Dr. Arbona and Dr. Seipp during this conference, gives some indication of the kinds of relationships that may be needed in developing societies. Obviously, there are certain differences in patterns of organization because of the differences in the countries to be served.

Another factor that must be considered is the tendency for the concentration of the most highly trained health personnel and the most elaborate facilities in urban centers. This has created the necessity for the development of related satellite units at the various levels. Depending upon the geographical areas to be served and the population concentration, there may be need for various levels of peripheral units, that is, the medical center and a series of satellite units around it and then a series of subcenters in the remote areas. This mechanism provides for supervision and for service radiating from

the point of highest quality of technical skills and knowledge to the more remote areas.

In such a regional program there is need for highly trained specialists at the center with referral of difficult problems to the center, thus making the most efficient use of highly skilled and scarce personnel that may be available. For example, in a number of locations it has been estimated that a cardiac surgery team with appropriate peripheral screening can serve a population of from 500,000 to 1,000,000 people. There could be many other examples of the utilization of highly skilled personnel at the center, such as obstetricians and other medical specialists.

Maternal and child-health services, however, need to be readily accessible to the people where they are and therefore should be supplied at the periphery, but here again there should be provision for referral of difficult or complicated cases either to satellite hospital units or to the medical center itself. This type of regionalization presupposes adequate transportation and will not work in a society in which there is inadequate transportation.

General health supervision and most of environmental control for rural areas are provided in a regional program at the peripheral stations.

One of the dangers in such a medical-center-oriented regionalized program is that the tremendous burden of emergency medical care overshadows and dilutes the preventive medical services so urgently needed. This may be prevented by the establishment of standards of organization and of performance and through supervision and policy guidance from the central organization. The maintenance of quality of service in a regionalized program is dependent to a considerable extent on the source of financial support for the programs. In a developing society the major financial support for health service programs comes usually from the central government. This has the advantage of giving the authority for supervision

and quality control but has the disadvantage of lessened local interest in support and utilization. Local community participation is so important in the creation and utilization of health facilities that serious consideration needs to be given to the stimulating of general community development. This means team work between governmental units and agencies and the general development of community life involving food production, education, industrialization, and general welfare as well as health. In a number of developing societies demonstrations of village development have been successful not only in the health fields but in the improvement of the general welfare of the community. Real progress has been made in a number of developing countries through demonstrations of so-called self-help and village-development programs. Experienced community organizers equipped with some technical knowledge have been able to enlist the interest of village or rural leaders in the development of programs of general improvement of welfare, including the health services, particularly where some financial assistance can be given by the central government. In the more seriously underdeveloped countries one of the severe handicaps to the development of health services is the lack of understanding and utilization of services that can be made available. This points up again the necessity for multipurpose community development programs including a major emphasis on education.

I should like next to consider the main subject of discussion in this seminar, the provision of the manpower necessary for the health services in a developing society. There is a natural desire on the part of the developing society immediately to have available and accessible the highest form of medical health services known to mankind. Unfortunately, as previously pointed out, it will be difficult, if not impossible, to satisfy this desire in the foreseeable future.

A number of years ago a physician from an underdeveloped country who had been sent to the United States for training

in public health received a cable from the newly elected and highly motivated president of his country. The president had read in *Time Magazine* of the then newly developed electron microscope, and he wanted his people to have the benefit of this new technical advance. Eight years later when I visited the former student the electron microscope was still unused because there had been no one trained to use it and more important because there were infinitely more pressing health needs. The money spent for this microscope would have been of much greater value if used for the training of nurses, midwives, or sanitarians.

Time is required for the training of skilled health personnel. Even in the more affluent nations the demand by far exceeds the supply for almost all types of health personnel. It is reported that there are no more than two thousand sanitary engineers in all of Latin America to provide the technical skills that will be required to attain the goal of the Punta del Este charter of providing potable water and safe sewage disposal for the more than one hundred and fifty million people it is anticipated will be served.

The number of physicians and public health nurses is completely inadequate to meet the needs of modern public health programs. Eight to twelve years in the United States is required for the education of a physician, after high school, who is fully qualified for the highly technical responsibilities of modern medicine. Usually four years is required for the training of public health nurses and even longer for the sanitary engineer.

In most developing countries the numbers of young people finishing their secondary education is not sufficient to meet the needs in the health professions, and there is pressing and increasing competition for these graduates of high school in other technical fields. Strengthening of primary and secondary education is a prerequisite to the development of more professional schools in these developing countries.

Long-range plans are needed in which basic education as well as technical training for the health professions, is given high priority. The long-range needs for trained personnel should be defined as accurately as possible and plans laid for the recruitment and training of the necessary personnel, but in the meantime in most developing societies something short of this ideal will almost certainly have to suffice. This raises difficult questions of policy: does the training and utilization of subprofessional personnel to meet urgent needs mean a permanent lowering of standards of health services? I know of no society that would willingly take such a step. If so, is there any method of meeting present needs in such a way as to provide a career opportunity and future training for subprofessional personnel needed in an emergency, that might fulfil the long-term needs of the country? The task of supplying trained and qualified health personnel for the many developing societies in the world is a staggering one. It seems to me that we urgently need to attack the problem on all fronts.

First, let us consider a better utilization of the scarce manpower now available. We have discussed the maldistribution of health personnel, and I am sure that it exists in almost all parts of the world. I was impressed a few years ago when in the Philippines to find that a number of physicians I had known previously were no longer engaged in any form of medical practice. One was in business in Manila, another had gone home to manage his family's farms, and another was a taxi driver. Manila has one of the highest ratios of physicians to population in the Far East. Because of widespread poverty the private practice of medicine, except for a relatively small group of specialists, is not particularly financially rewarding. Salaries in government positions are low and other inducements for public service are lacking. According to the records of graduation Manila has more than one physician per thousand population, yet in more remote islands one can find areas of one

hundred or one hundred fifty thousand population with only one physician, and there are plenty of other areas with as much as fifty thousand population with no physician at all.

Maldistribution of health personnel is not peculiar to developing countries. The tendency for physicians to concentrate in the large cities is equally apparent in the United States. This maldistribution of physicians, dentists, nurses, engineers, and auxiliary health personnel is apparently as serious in Latin-American countries as in the rest of the world. One approach to meeting the manpower shortage for health services might be to provide incentives for health personnel to go where most needed. These incentives might be monetary, but probably equally important would be the provision of more adequate facilities for them to carry out their health services, and I think perhaps the most important step would be the improvement of living conditions for them and their families. I am inclined to believe that in no place has sufficient thought and effort been given to attracting trained health personnel away from the big cities to the places where they are more urgently needed. This I believe might be a partial solution to the problem faced in developing countries, but alone would not solve the manpower shortage.

Certainly every effort should be made to expand and improve the professional and subprofessional schools in the training of health personnel, and in the long run this undoubtedly will be the best solution to this problem. The construction, staffing, and maintenance of the needed medical, public health, nursing, and engineering schools will be costly and take time. There is need for hemisphere-wide planning to develop these training programs. There may well be the possibility of joint development of training opportunities on a regional basis. Just as not every state in the United States has all of these, but has through regional educational boards developed co-operative agreements, so perhaps nations can jointly meet their training needs.

Many nations have sent their promising young people abroad for training in the health profession. Many have come to the United States, and they have been most welcome. I hope this will be continued and even expanded but it cannot in any sense of the word meet the needs for training personnel in the developing countries. New schools are needed in the developing societies, and the foreign fellowship program should concentrate on the training of teachers and on giving technical advice to the developing schools where needed.

Now we come to the question of meeting the immediate need through the use of subprofessional personnel. We can, I think, learn something from certain experiences in the use of subprofessional personnel in other parts of the world. The *Feldscher* developed in Eastern Europe as a subprofessional physician, particularly in Germany and in Russia, is believed to have served a very useful purpose, and in fact in Soviet Russia for many years use of such personnel was the main means of meeting health service needs. The program of training at Gondar in Ethiopia has not as yet been in existence long enough to be satisfactorily evaluated, but there is every indication that it will provide much needed subprofessional personnel to meet the very urgent needs of that country. It is interesting that the training of the Gondar graduate was in some ways similar to the training of the *Feldscher*, but that it had a far greater emphasis on prevention and general health supervision. This was an attempt to make the best use of the dollar in terms of disease prevention; where there was untold need for medical care the subprofessional personnel were trained primarily for the prevention of disease. In this hemisphere we have had considerable experience with a type of subprofessional personnel, the nurse-midwife. I am not sure that the nurses would agree with me that this is a subprofessional person, but in a number of communities in the United States the nurse-midwife has provided most valuable service to mothers and children and has met an urgent need. My colleague, Dr.

Nicholas Eastman, formerly Professor of Obstetrics at Johns Hopkins, still feels that, if we are to provide the best service for the people in the United States, we must make use of the nurse-midwife as a major means for providing obstetrical services. There is every reason to believe that this may be expanded in this country. In addition I would point out that there is a constant tendency for auxiliary personnel to take over responsibility for a function previously considered the sole responsibility of the physician, and there are now ten auxiliary persons to one physician in the United States. So even in a highly developed country such as ours we are moving toward greater use of the auxiliary or subprofessional person.

In view of the urgency of the need for health and medical services in a large part of the world, I should like to propose that thought be given to a special training program that would provide basic minimal instruction in the diagnosis and treatment of disease, good basic training in midwifery, and training in preventive medicine and public health. Such an individual would provide much-needed medical care, obstetrical and preventive services in areas that now have nothing but the services of a witch doctor or of a midwife with no training in asepsis. Such a subprofessional might well be trained—I may be overcautious—in three years or even less beyond high school; and with adequate supervision and continuation training could, I believe, become a very effective adjunct to the extremely limited services available in many parts of the world.

In setting up such a subprofessional training program I think there are a number of considerations: First, the title of such a person should be clearly non-professional and great care should be exercised to limit his activities to those for which he has been trained. I think the lowering of standards might be avoided by clearly defining this person as a subprofessional, not as a physician, and then setting up a

mechanism to limit his services to those for which he has been trained. However, the scope of such persons' work might well include simple diagnosis and treatment of obvious disease, the carrying out of established immunization procedures, giving first aid, serving as a midwife, and giving guidance on infant care and nutrition, advising on simple sanitary measures and on the provision of safe water supply. Such a person might also undertake simple laboratory procedures, such as urinalysis, screening tests, taking blood samples and smears to be transmitted to a distant laboratory.

In order to avoid the dangers of the development of the subprofessional's career as a blind alley and therefore not an attractive one, I suggest what may seem to some to be academic heresy, and that is that such personnel, having had basic training and experience, might well be considered for a higher level of training and that they might be given academic credit for the training they had as subprofessionals. Particularly because of their experience and if they have continuation education and good supervision, they might well enter training for professional qualifications with a high degree of understanding and better qualifications than some without such experience.

Another type of individual who might be considered for subprofessional activities would be what we might call a multipurpose sanitarian, and this has been tried in a few communities in which the person primarily trained in environmental sanitation was given additional responsibilities, such as the carrying out of established immunization procedures, the minimal laboratory tests in the field, and the carrying out of screening techniques, particularly in the environmental health area. In the selection and training of these subprofessionals it would be important to recruit them from the areas in which it is hoped that they would work in order that there would be a greater tendency for them to return to these more remote areas where services are so urgently needed. I think the longer the

period of training, the less likely they are to go back. Limited experience has shown that once personnel leave their own communities and become accustomed to city life, it is harder and harder for them to return.

We were asked to consider at this conference the role of the individual, the physician, and the community in the development of health services. We have evidence that the developing nations are seriously concerned with health. There is considerable evidence of a desire for health services if not an actual demand for health services from the people themselves. This, however, is not uniform and is more apparent in cities than in rural areas. It has repeatedly been observed that people in rural areas tend to be less ready for modern technology—particularly in the health field—than are the urban dwellers. Perhaps it is partly because of the high prevalence of malaria, hookworm, and other debilitating diseases that rural people are less progressive and less willing to accept modern services. This lethargy was described very effectively in a report of the commissioner of education of the Philippines, and I quote from his report: "The progress in the sciences, in literature and in arts which foreign influences brought into the Philippines and which has seeped into the life of the people of the urban areas has not yet affected to a noticeable degree the somnolence of life in rural communities." For lack of inspiration, leadership, and guidance the individual has tenaciously held onto his old ways and modes of living, using the same implements in agriculture and fishing and in the native industries as those which his forebears used. His mode of leisure and enjoyments, his likes and dislikes, and even his vices are the same as those of past generations. On top of all of this he views his lot with contempt and ignores the future with the philosophy of "Let the future take care of itself." It is for the purpose of stirring the individual from his long years of lethargic existence that the community development program must be formulated.

I think this is a description of problems in some parts of

the world, and if we are to have active participation by the individual, certain communities must be developed and stimulated. Community living cannot be improved without the desire on the part of the people in the community to improve themselves. It is essential that the people develop their own urge to improve.

If health services are to be developed and utilized, the individual must play his part. This requires education in the particularly backward areas. I heard recently of a situation in Africa where a health center, staffed from the medical centers, was built in a remote village and was prepared to meet what was expected, on the basis of urban experience, to be a great demand. No one came to this new health center until public health nurses and health educators had convinced the mothers of that community that there was real value in modern medical treatment. There will undoubtedly be great variation in the acceptability and the desire for health services in different societies. We must be prepared for the need for demonstrations and active stimulation of interest and participation in certain communities. This is not a new concept. In the United States the Farm Demonstration Agent is a good example of a success story in stimulating community interests and support for activities which will in the long run improve human welfare greatly. Experience in the health field as well as in others has shown that once demonstrated to be of value a community development gains momentum and strength by individual participation.

The physician is obviously a key person in the development of community health services. His training and technical knowledge suit him for a role of leadership not only in the provision of medical care but in the planning of health services. He will need the assistance of other professional and technical workers, such as dentists, sanitary engineers, sanitarians, and nurses. If health services are to be comprehensive, including both curative and preventive facilities, the physician

will be primarily responsible for the medical aspects of the program. Traditionally he has been a leader in the recognition of the need for health services and for the planning and provision of such services. If subprofessional personnel are to be used until a time when fully trained physicians are available in sufficient numbers, the physician will have a major responsibility for supervision and training of such personnel.

In the United States we have proceeded on the philosophy that government should do only that which the individual cannot do for himself, although this is changing. This has been the basis of the development of private practice of medicine with government assuming responsibility only for that portion of the population which for one reason or another was not able to provide for its own medical services. With the increasing complexity of our civilization government has gradually assumed a greater role, particularly in the provision of major facilities for the provision of health services. With urbanization our government provided potable water supplies, sewage disposal, and protective services. Provision of medical care by government has been limited in the past primarily to the indigent group. Gradually government has become more and more involved in health services through grants for research and for the construction of hospitals, health centers, and other medical-care facilities. With the aging of the population great concern has been apparent regarding the problems of the medical care of the aged and provision for catastrophic illness.

In most of the developing societies there has been greater assumption of responsibility for health and medical services on the part of government, primarily because of low income level in most of the developing countries. In looking to the future it seems likely that the community through its organized government will have to assume a major role. If the goals proposed in the charter of Punta del Este are to be achieved, the community will undoubtedly have to take a major respon-

sibility for planning, developing, and rendering services. If, as is certainly to be desired, along with the development of health services there is also industrial, economic, and social progress, the individual in these developing countries may be expected to assume increasing responsibility himself for the provision of health and medical services, either through a private-practice system or through payment of taxes.

At the risk of being told that my bias is showing or of being accused of riding a hobby I cannot but mention in considering prospects for the future the important problem of population growth. In the United States we are with difficulty keeping pace with the increasing demands for medical services. There are some who believe that there may even be deterioration of the level of health services due to the rapidly increasing population and the changing character of the population. Greatly expanded training facilities for health personnel are required if we are to maintain the present ratio of health-service personnel to the population. And even greater expansion will be required if we are to meet the increasing demand for medical and health services resulting from increased knowledge of methods of prevention and cure of disease and the aging of the population. These same factors are in operation in other parts of the world and in many countries to a far greater degree. Studies made by the United Nations predict a population of two hundred seventy-five million in Latin America in 1970 and five hundred ninety million in the year 2000. These potential population growths must be taken into consideration in planning, both in terms of magnitude of the problem of providing adequate health services and the responsibility for including in the planning effective and socially acceptable methods of reducing the birth rate rather than increasing the death rate.

In conclusion the future prospects for the development of community health services will depend upon the courage, the vigor, and the vision of those responsible for designing these

services. We have in the World Health Organization, the Pan American Sanitary Bureau, and the Technical Assistance Program of the United Nations a mechanism for a co-operative and co-ordinated effort on the part of all peoples of the world to work toward a better way of life and better health. I am convinced that the United States will continue to give technical assistance and material aid for developing societies in the provision of health services. I am convinced that neither the hemisphere nor the world can exist half sick and half well.

Closing Statement

R. Taylor Cole

I should like to read a few lines from a recent and substantial report on international affairs, *The University and World Affairs*, prepared by a committee headed by former President Morrill of the University of Minnesota, and including such individuals as John Gardner, President of the Carnegie Corporation; Dean Rusk, then the President of the Rockefeller Foundation; and a number of other distinguished participants. The section on "Professional Schools" contains these lines:

> The educational focus of most professional schools in American universities is overwhelmingly domestic for the strong vocational reason that they train students to practice professions in the United States, and frequently in specific states. In important ways, this principle of professional education has been outmoded by the growing American involvement with the rest of the world. A significant proportion of professional graduates can expect to find part of their careers in foreign areas, whether their profession be law, education, public administration, business, medicine, public health, engineering or agriculture. If only on this utilitarian ground, the case is clear for an effective international component in the programs of the stronger professional schools. The case also rests on the wider grounds that American professions have a responsibility for the international aspects of their fields, that they need to understand other societies if they are to understand our own, and that many of the major problems of their fields are also found in other societies.

With this quotation providing an excuse, I might take the liberty of referring to two or three of the general developments

in the university area, and to one or two specific ones in the medical area.

At Duke University we have been concerned to increase the attention in our general courses to problems of international affairs. Our library expansion has reflected this interest, for example, in acquisitions involving Commonwealth and Latin-American countries which are heavily represented at this meeting. Some of the distinguished research which has been done at Duke by such men as Professors C. B. Hoover and J. J. Spengler in economics, the late Professor E. M. Carroll in history, Professor Robert R. Wilson in political science, and by many others could also be mentioned.

There are at Duke several centers involved in international relations studies. All of them are new and are still in an experimental stage of development. These include the Commonwealth-Studies Center, the World Rule of Law Center, and the Lilly Endowment Research Program in Christianity and Politics. Also to be mentioned is the Marine Laboratory at Beaufort, to move into the biological field.

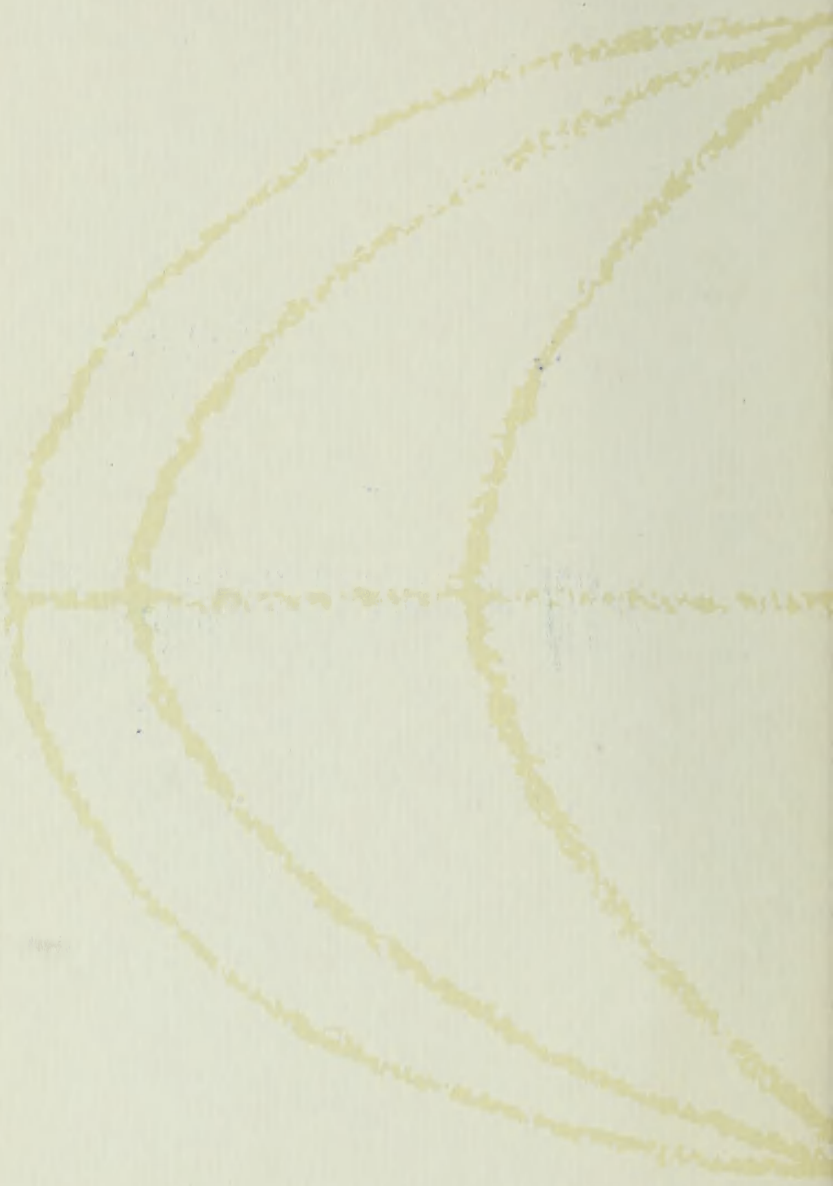
Our Board of Trustees represents something of this interest, as illustrated by the work of Charles Rhyne with the American Bar Association. Two members of our Board have been among this country's most distinguished diplomats, including George Allen and George McGhee, at present the Ambassador to Germany. I refer to these persons solely to suggest the type of friendly atmosphere and environment in which our work in international affairs is progressing.

I wish particularly to refer to a number of developments in the Medical Center which I think reflect these trends in the university as a whole. For example, mention should be made of the work of Dean Emeritus Wilburt Davison, who initiated in Taiwan the first major program of medical aid sponsored by the United States government; of the work of Dr. Wiley Forbus following his recent return after two years in Indonesia; and the work of Dr. R. Frederick Becker, who has served as

a consultant to one of the hospitals in Thailand. I must refer also to the work of Dean Barnes Woodhall, who has served with distinction during the past two years as the Head of the V.A. Special Medical Advisory Group. The V.A. patients have had practical experience with one phase of international relations. To refer to student participation, "Project Nicaragua," which was initiated two years ago by one of our able young ministers, has involved a number of our medical students and nurses.

In conclusion, I shall not presume by suggesting the types of activities that should be planned by the Medical Center or by our professional groups in the University. Nevertheless, the tremendous needs found in so many areas of the world must be viewed in the light of the available resources for dealing with them. And, given the interest reflected here among various professional groups, given the facilities at the Duke Medical Center, given the caliber of research which is being done there, given the teaching reputation which has been achieved there (not only the teaching of students but the teaching of teachers which has been one of the most distinctive features of the work of our Medical School)—given all these assets, it does seem that there should be opportunities for imaginative thinking about ways and means for dealing with some of the problems which have been discussed at this symposium.

Index



re typing

MASTER
ADDRESSER
COMPANY
MINNEAPOLIS 26
U. S. A.

Long

17832